Response to Pre-Bid Queries

NAME OF PROJECT : DESIGN, ENGINEERING, CONSTRUCTION AND COMMISSIONING OF WASTEWATER TREATMENT PLANTS WITH TERTIARY TREATMENT FACILITY AND INTERMEDIATE SEWAGE PUMPING STATION ALONG WITH OPERATION & MAINTENANCE THEREOF FOR TEN YEARS FOR BYATARAYANAPURA ZONE (DBO MODE) IN 110 VILLAGE AREAS (Phase II) UNDER KARNATAKA WATER SECURITY AND DISASTER RESILIENCE PROGRAM (KWSDRP) – (Contract Package No. BWSSB CE-P/KWSDRP/WBS-II-A)

Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
1	Volume -1/3.1.2 (b)(i)	Experience in Key Activities Experience in Key Activities Experience in Execution of WwTPs i. The Tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One (1) No. WwTP of 12 MLD capacity and above or Two (2) Nos.Waste Water Treatment Plants of minimum 6 MLD capacity with Biological Nutrient Removal (BNR) technology of process like , A2O, EA, IFAS, MBBR, SBR, with SCADA Integration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 10 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and fecal coliform < 100MPN/100ml should be in operation for a period of one year during the last 5 years as on date of Bid submission.	Qualification criteria states that the plants must use one of the listed BNR Technologies as stated above. However, we would like to highlight that the plants which we have executed utilized Membrane Bioreactor (MBR) technology, which is a more advanced and reliable process compared to MBBR, and it fully meets the effluent discharge standards mentioned in the tender & it is finely operational from previous years. A few key advantages of MBR over MBBR include: •Higher effluent quality suitable for reuse applications •Smaller footprint, ideal for space-constrained sites •Elimination of secondary clarifiers due to membrane-based separation •Greater process stability and operational consistency •Better adaptability to stringent regulatory requirements Considering these points, we kindly request you to consider the plant executed using MBR technology as equivalent to those using MBBR technology under the qualification criteria.	Refer Addendum-1
2	Volume-2 / Section-7, Part 5 -31	Influent Wastewater Characteristics Ph — 6.5-7.5 BOD — mg/L — 350 COD — mg/L — 800 TSS — mg/L — 450 VSS — mg/L — 360 TKN — mg/L — 70 NH4-N — mg/L — 45 Total Phosphorus — mg/L — 7	As per referred clause in the tender document, For BOD=350 mg/L, the corresponding COD value is 800 mg/L. The COD/BOD ratio is on the higher side. In normal practice BOD= 250 mg/L and COD= 425 mg/L is considered as per CPHEEO. We presume that there are no ingresses of Industrial effluent in the Sewage and the COD is biodegradable. Kindly Confirm.	The design influent parameters requirement shall be as defined Part 5, Cl.no. 15.20.1, "TSPS & WwTPs Design / Sizing Criteria".
3	Volume-2 / Section-7, Part 5 -31	Influent Wastewater Characteristics COD — mg/L — 800	We presume that there are no ingresses of Industrial effluent in the Sewage and more than 95% of COD is biodegradable and less than 5% of COD is non-biodegradable. Or the treated Effluent COD performance requirements may be relaxed subject to the Contractor proving the presence of non-biodegradable COD in the influent which cannot be treated using the processes provided at the Works Kindly Confirm.	Bidder may consider Non-biodegradable COD as per the bidder design.
4	Volume-1 / Page 11 of 178	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i) 3.1.2. (b) (i) Experience in Execution of WwTPs The Tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One (1) No. WwTP of 12 MLD capacity and above or Two (2) Nos.Waste Water Treatment Plants of minimum 6 MLD capacity with Biological Nutrient Removal (BNR) technology of process like , A2O, EA, IFAS, MBBR, SBR, with SCADA Integration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 10 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and fecal coliform < 100MPN/100ml should be in operation for a period of one year during the last 5 years as on date of Bid submission.	As per the Tender document, Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i). We understand that the referred clause has mentioned the effluent quality standards at the outlet of STP and not after the secondary treatment process. Therefore, for the purpose of demonstrating compliance, the Technology Provider supplying the secondary treatment process must ensure that the treated effluent meets the following key parameters at the final outlet, as specified in the clause — excluding fecal coliform: •BOD ≤ 10 mg/L •COD ≤ 50 mg/L •TSS ≤ 10 mg/L •Total Nitrogen (TN) ≤ 10 mg/L •Total Phosphorus (TP) ≤ 1 mg/L Kindly Confirm.	Refer Addendum-1

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
5	Volume-1 / Page 11 of 178	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i)	As per the Tender document, the Technology Provider is required to provide evidence of having successfully supplied the technology for at least one (1) wastewater treatment plant (WWTP) as per Clause 3.1.2(b)(i). We note that the referred clause does not explicitly mention the required capacity of this reference WWTP. We understand that the Technology Provider must demonstrate having successfully supplied the technology for at least one (1) WWTP of 12 MLD capacity in line with Clause 3.1.2(b)(i). Kindly confirm	Yes, technology provider shall also abide to the PQ required defined in Clause 3.1.2. (b) i.
6	Volume-2 / Section-7, Part 5 -51	N-1 condition: - The Bidder shall provide calculations for operating the WwTP at Design Flow with 1 SBR tank offline for maintenance.	In the previous tender of BWSSB-i.e. CP25 package and 10 MLD STP at Jakkur project which was based on SBR technology, this particular clause had been deleted. We presume that same shall be followed for the present tender also. Kindly confirm.	Tender Conditions Prevails.
7	Volume-2 / Section-7, Part 5 -51	HRT at average flow: 24 Hrs.	HRT is the derived factor based on the selected SBR cycle time and Inlet characteristics of the sewage. We understand that the HRT shall be as per process requirement and as per recommendation of Technology provider to achieve the outlet sewage characteristics as per tender requirement. Kindly Confirm. Kindly Confirm.	Tender Conditions Prevails.
8	Volume-2 / Section-7, Part 5 -52	Mixing with Air: For pre-zone or selector zone mixing, dedicated coarse bubble diffuser shall be provided with dedicated flow measurement to each pre-zone or selector zone.	In the previously published tenders by BWSSB :- 10 MLD STP Malathahalli and 10 MLD STP Kempambudhi there was no such criteria for air flow measurement to selector zone. Hence, we presume that the same criteria is not applicable for this project also. Kindly confirm.	Tender Conditions Prevails.
9	Volume-2 / Section-7, Part 5 -52	Decanter Weir Length: Minimum decanting flow rate of 1.7 times the average flow shall be considered to calculate the decanter weir length in each basin.	In the previously published tenders by BWSSB :- 10 MLD STP Malathahalli and 10 MLD STP Kempambudhi, This specific criteria was not mentioned. Hence we presume that the same criteria is not applicable for this project also. Kindly confirm	Tender Conditions Prevails.
10	Volume-2 / Section-7, Part 5 -52	Maximum Decanter Weir loading rate: 120 m3/h/m	In the previous tender of BWSSB-i.e. CP25, CP 26 and CP 27 package based on SBR technology, the Maximum Decanter Weir loading rate was 125 m3/h/m (Addendum-8). We presume that same shall be followed for the present tender also. Kindly confirm	Tender Conditions Prevails.
11	Volume-2 / Section-7, Part 8 -98	Decanters (For SBR system)	We presume that all decanter specifications shall be acceptable as per the technology providers standard specifications. As bidder has to submit the technology Tie-Up agreement in his technical bid. Kindly Confirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
12	Volume-2 / Section-7, Part 8 -99	Decanters (For SBR system) All the withdrawal SS 316L Pipes shall be of thickness not less than Schedule 20S above 200 mm and Schedule below 200 mm shall be of Schedule 40S, and all the pipes shall be of Seamless type only.	We presume that all decanter mechanism is an integral part of Technology components. Also, bidder has to submit the technology Tie-Up agreement in his technical bid. Therefore, pipe schedule(s) mentioned under decanter specifications are not applicable for decanters. Kindly Confirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.
13	Volume-2 / Section-7, Part 5 -53	Peak Oxygen Demand Factor: 1.3	In the previously published tenders by BWSSB :- 10 MLD STP Malathahalli and 10 MLD STP Kempambudhi there was no criteria for Peak Oxygen Demand Factor. Hence we presume that the same criteria is not applicable for this project also. Kindly Confirm.	Tender Conditions Prevails.
14	Volume-2 / Section-7, Part 5 -53	8. Process Air Blowers α: Oxygen Transfer Correction Factor - 0.6 β: Salinity - Surface Tension Correction Factor - 0.95 F: Fouling Factor - 0.8	The given factors in the tender document, Alpha, Beta and Fouling Factor, depend on the diffuser type, MoC, and self-cleaning capacity which can vary within the range given in the latest edition of Metcalf and Eddy. Therefore, we presume that the given factors can be considered as per the latest edition of Metcalf and Eddy to design the aeration system. Kindly Confirm.	Tender Conditions Prevails.
15	Volume-2 / Section-7, Part 8 -82 to Part 8 -101	8.18 Aeration system with allied Equipments 8.18.1 Tubular Type Diffusers & 8.18.15.2 Diffuser system for IFAS 8.18.15.3 Type of Diffuser System 8.18.15.4 Diffuser Elements 8.18.15.5 Testing for Diffuser system 8.18.15.6 Air Piping to Diffusers	In the Tender document, two different Diffuser specifications are given as mentioned in referred clause. We understand that the Diffuser specifications given in the Clause 8.18.15.2 to 8.18.15.6 are applicable to the aeration system for all secondary treatment process where diffused aeration is applicable. Kindly Confirm.	Diffuser specification shall be as per Cl.no.8.18.1 only and Cl.no. 8.18.15.2 to 8.18.15.6 stands deleted. Refer Addendum-1
16	Volume-2 / Section-7, Part 5 -53	Process Air Blowers for all Treatment Processes Design SOTE per m depth of water (Minimum to be provided and maximum to be used as design basis) – 5.50 %	The SOTE of the latest advanced diffusers are achieving more than that specified in the tender. Kindly allow us to provide the SOTE as per the diffuser manufacturer's design. The letter from the diffuser manufacturer shall be submitted during detailed engineering stage. Kindly Confirm.	Tender Conditions Prevails.
17	Volume-2 / Section-7, Part 8-82	8.18 Fine Bubble tubular Membrane Diffusers 8.18.1 Tubular Type Diffusers (h) The bubble should retain a solid spherical shape. The bubbles produced from the diffuser shall be minimum 0.5 mm.	The perforation and bubble size of diffuser may varies from Manufacturer to Manufacturer with a guarantee for the performance. Kindly request to accept the perforation and bubble size as per Diffuser Manufacturers Design. Kindly Confirm.	Tender Conditions Prevails.
18	Volume-2 / Section-7, Part 8-82	8.18 Fine Bubble tubular Membrane Diffusers 8.18.1 Tubular Type Diffusers ...maximum outer diameter (OD) shall not be more than 90 mm.	Kindly request to accept the outer diameter (OD) as per design of Diffuser Manufacturers as specified in the tender document. As the outer diameter (OD) of diffuser varies from Manufacturer to Manufacturer with a guarantee for the performance. Kindly Confirm.	Tender Conditions Prevails.

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>19</td><td>Volume-2 / Section-7,
Part 8-82</td><td>8.18 Fine Bubble tubular Membrane Diffusers
8.18.1 Tubular Type Diffusers

(b) The diffuser shall be fine bubble membrane tube type diffuser consisting of a single piece injection-molded polypropylene/uPVC tube surrounded by a membrane sleeve ……</td><td>The provided specifications for diffusers are pertaining to a specific vendor. Therefore, we understand that the diffuser specifications of any approved vendor M/s Environmental Dynamics, M/s OTT GMBH, M/s Rehau Polymer, M/s SSI Aeration mentioned in ‘CONSOLIDATED Mechanical Equipment VENDOR LIST’ shall be acceptable.

Kindly confirm.</td><td>It has been reconfirmed that the listed vendors in approved list are satisfying the Bid Specification requirements. Hence Tender Conditions Prevails.</td></tr>
<tr><td>20</td><td>Volume-2 / Section-7,
Part 8-83

&
Volume-2 / Section-7,
Part 5-8</td><td>8-18 Fine Bubble Tubular Membrane Diffusers
8.18.1 Tubular Type Diffusers
(n) Provide a back-flow prevention device built integrally with the diffuser that prevents backflow into the diffuser and air piping.
&
Contractor shall provide back flow prevention mechanism / check valve inside each diffuser to prevent intrusion of liquid and/or solids into the diffuser and air piping under normal operating conditions of aeration system.</td><td>Many diffuser manufacturers under approved vendor list of the tender provide slits on the membrane which act as a prevention of backflow into the diffuser. These slits automatically get closed when air supply is stopped.

We understand that any separate prevention device/mechanism is not required in this case. Also, the same was accepted in CP-25. CP-26 & CP-27 tenders called by BWSSB.</td><td>Yes confirmed. Diffuser shall be provided with a back flow prevention device built integrally with the diffuser that prevents backflow or Diffuser membrane slits can also act as a prevention of backflow into the diffuser. Diffuser slits automatically get closed when air supply is stopped into the diffuser and air piping.
Refer Addendum-1</td></tr>
<tr><td>21</td><td>Volume-2 / Section-7,
Part 8 - 90</td><td><table><tr><th>Si.no.</th><th>Description</th><th>Material of Construction</th></tr><tr><td>f</td><td>Acoustic enclosure</td><td>Al-Zn coated steel, insulated with glass wool</td></tr></table></td><td>In recent days various MOC of Acoustic closures for Turbo air blowers are available. Kindly allow tenderer to provide acoustic enclosure for Turbo Blower of MOC as per manufacturer’s standard.

Kindly confirm.</td><td>Superior material than specified in the tender can be adopted with justification and without any cost implication to BWSSB.</td></tr>
<tr><td>22</td><td>Volume-2 / Section-7,
Part 8 - 161</td><td>40 Disc Filtration System

List of Approved Suppliers:
Manufacturer for Disc Filter:
M/s Hydro Tech
M/s Xylem
M/s Estragua
M/s Jash Invent
M/s Huber
M/s Aqua Aerobics
M/s Evoqua water Technologies</td><td>M/s Yucheon has been accepted as disc filter supplier In the previously published many tenders by BWSSB such as STP packages of CP-25, 26 and 27, 10 MLD STP at Jakkur,10 Komaghatta, 13 MLD Byrathi Kanne.

Therefore, we presume that the tenderer can propose M/s. Yucheon Make Fiber Disc filter for this tender.

Kindly Confirm.</td><td>If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.</td></tr>
<tr><td>23</td><td>Volume-2 / Section-7,
Part 5 -56</td><td>DISC FILTER

Design flow per unit: Designed for 100% Peak Flows including recycle flows - Irrespective process</td><td>We understand that the Design flow for the Disc filter unit shall be maximum incoming flow to the disc filter unit. In the case of SBR system, FDF unit shall be designed with the average flow or the decant flow whichever is higher.

Kindly confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>24</td><td>Volume-2 / Section-7,
Part 1 -7

Volume-2 / Section-7,
Part 5-32</td><td><table><tr><th>Parameters</th><th>Unit</th><th>Value</th></tr><tr><td colspan="3">TREATED EFFLUENT QUALITY REQUIREMENTS - DISCHARGE</td></tr><tr><td>pH - Instantaneous range</td><td>-</td><td>6.5-8.0</td></tr><tr><td>BOD$_5$ at 20°C - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>COD - Maximum monthly average</td><td>mg/L</td><td>50</td></tr><tr><td>TSS - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>TN - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>Total Phosphorus - Maximum monthly average</td><td>mg/L</td><td>1</td></tr><tr><td>Residual Chlorine - Instantaneous</td><td>mg/L</td><td>1</td></tr><tr><td>Fecal Coliform – Maximum Monthly average</td><td>MPN/100 mL</td><td>100</td></tr><tr><td>Fecal Coliform – Ceiling Limit (in any day)</td><td>MPN/100 mL</td><td>230</td></tr></table></td><td>As per the tender document the required treated effluent quality requirements such as BOD, COD, TSS, TN & TP can be achievable at the outlet of the biological treatment process like SBR. In such cases there shall be no need of Disc filter to be proposed for achieving the treated effluent quality. Hence we understand that the Disc filter shall be provided as per the process requirement.

Kindly confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>25</td><td>Volume-2 / Section-7,
Part 8 -136</td><td>Disc Filter</td><td>The provided specifications for Disc Filters are pertaining to a specific vendor and this are compiled by only one or two vendor’s mentioned in the approved vendor list. Therefore, we understand that the Disc filter specifications shall be acceptable as per approved vendor.

Kindly confirm.</td><td>If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.</td></tr>
</table>

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
26	Volume-2 / Section-7, Part 8 - 138	Filter Membrane: Stainless steel screen / Mesh: SS-316L	Polyester filter cloth or SS 316 with 10 microns mounted on a Poly Propylene Glass/ABS frame was mentioned in previous tenders like 10 MLD Komaghatta, 13 MLD Bairathi Khanne & CP-25, 26 & 27. Hence, we understand such requirement shall be applicable for this said tender. Kindly Confirm.	Tender Conditions Prevails.
27	Volume-2 / Section-7, Part 8 – 138	….. the automatic valve and suction cleaning pump which shall be …..	Automatic valves for suction cleaning pump arrangement was not mentioned in previous tenders like 10 MLD Komaghatta, 13 MLD Bairathi Khanne & CP-25, 26 & 27. Hence, we understand such requirement shall not be applicable for this said tender. Kindly Confirm.	For automatic Backwash operation this valve is suggested in fully submerged Disc filters, Tenderer can follow alternative arrangement as per vendor recommendation, considering auto operation system of Backwashing based on clogging alarm.
28	Volume-2 / Section-7, Part 8 - 138	Protective Top Cover and Body cover along with frame structure : SS316 (Minimum 4mm for Body cover)	As per tender document we are proposing fully submerged fiber disc filter. This type of filter need not require any kind of covering/shed/RCC roof. Therefore, we presume that fully submerged Fiber Disc Filter without cover shall be acceptable. Kindly confirm.	In cl.no. 8.26, Table "Technical Particulars Common for both Partially Submerged or Fully Submerged type Disc Filtration System", Tenderer can consider the specification, based on his design adopted either of two system. RCC structure as defined in the tender document is mandatory for both the system.
29	Volume-2 / Section-7, Part 5 -56	DISC Filter building	As per tender document we are proposing fully submerged fiber disc filter. This type of filter need not require any kind of covering/shed/RCC roof. Therefore, we presume that fully submerged Fiber Disc Filter without roof shall be acceptable. Kindly confirm.	Tender Conditions Prevails.
30	Volume 2, Page no. TECHNICAL SCHEDULE X-2	a)Energy Consumption for TSPS, WwTP with Reuse PCA = [{PCD}*{(0.42*QA/QD)+(0.24*BA/BD)+(0.24*TA/TD)+(0.1*NA/ND)}]	The said formula for energy consumption shall not be applicable in case the Terminal Sewage Pumping Station as the value is energy consumption value can be arrived on basis sewage quantity pumped and not on pollutant loadings like BOD/TSS/TKN. Therefore, we understand that the formulae provided for determining the energy consumption of ISPS shall be applicable for TSPS. Kindly confirm.	Tender Conditions Prevails.
31	Volume-2 / Section-7, Part 5 -55	ALUM DOSING SYSTEM (FOR ALL TREATMENT PROCESSES)	As stated in the tender an alum dosing system shall be required for chemical phosphorus removal. We presume that if Total Phosphorous ≤ 1 mg/l as mentioned in the tender is achieved biologically i.e. Biological nutrient removal process then Alum Dosing system shall not be required. Therefore, alum dosing system shall be optional and shall be provided if required as per process requirement to achieve Total Phosphorous as ≤ 1 mg/l. Kindly Confirm.	Tender Conditions Prevails.

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>32</td><td>Volume-2 / Section-7,
Part 5 -18</td><td>5.15Hydraulic Design Requirement

•Maximum pipe flow velocity shall be no more than 1.0 m/s for all gravity flow and pump suction lines unless specified otherwise.
•Maximum pipe flow velocity shall be no more than 1.5 m/s for all pumped discharge lines unless specified otherwise.
•Calculated normal velocity (at 20°C and 1atm) of air piping shall not be more than 16 m/s.
•For channels, the maximum velocity shall be no more than 1.0 m/s.
•For liquids the maximum velocity through gate opening shall be no more than 1.0 m/s unless specified otherwise.</td><td>In the tender document, mentioned Velocities in tender document are on lower side: Following table shows velocities for various services which are used as per good engineering practices, in many STP's.
<table>
<tr><th>Sr. No.</th><th>Service</th><th>Design Velocity m/s</th><th>Limitations</th></tr>
<tr><td>1</td><td>Gravity Lines for Sewage & Water</td><td>0.6 – 1.2 Designed as pipe line flowing full.</td><td>Min. Velocity shall not be less than 0.6 m/sec. Max. Velocity up to 1.2 m/sec is allowable at Peak Flow.</td></tr>
<tr><td>2</td><td>Pressure Lines for Sewage & Water</td><td>0.6 – 2.5</td><td>Min. Velocity shall not be less than 0.6 m/sec. Max. Velocity up to 2.5 m/sec is allowable at Peak Flow.</td></tr>
<tr><td>3</td><td>Air (Pressurized Lines)</td><td>18 – 22</td><td>Max. Velocity shall not be more than 25 m/sec in any section.</td></tr>
<tr><td>4</td><td>Scum & Sludge Lines</td><td>0.6 – 1.5</td><td>Irrespective of flow, Diameter shall not be less than 150 mm for Gravity Lines.</td></tr>
<tr><td>5</td><td>Chemical Feed Lines</td><td>0.6 – 1.5</td><td>Irrespective of flow, Diameter shall not less than 20 mm.</td></tr>
</table>
We presume that, above table shall be followed for proposed STPs.
Kindly Confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>33</td><td>Volume-2 / Section-7,
Part 5 -13</td><td>While selecting any type of pump and blower, priority shall be given to higher pump/blower efficiency and lower power consumption and shall ensure that pump/blower can operate at high efficiency throughout its service life. At minimum contractor shall ensure efficiencies of pump/blower as listed below:

•Minimum efficiency of Submersible Pumps for TSPS shall be 70%
•Minimum efficiency of Axial Tubular Pump (MLR) shall be 70%
•Minimum efficiency of RAS Pump (Horizontal/Vertical Non-clog solid handling) shall be 65%.
•Minimum efficiency of Sludge Pump (Progressive Cavity/Screw pump) shall be 45%.
•Minimum efficiency of Rotary Tri-Lobe blower shall be 70%
•Minimum efficiency of Centrifugal Turbo blower shall be 90%</td><td>The efficiency of the various equipment are mostly depends on the suitable model selection for duty condition and Manufacturer's design.

Therefore, kindly accept the efficiency of the various equipment as per design of manufacturer.

Kindly Confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>34</td><td>Volume-2 / Section-7,
Part 3-13 & 3-14</td><td>3.16.4 Bid Drawings and Details

(a) General and Process.
(b) Mechanical

(c) Electrical & Instrumentation</td><td>Tender specifies vast submission of documents. It is not possible to submit all these documents at bidding stage.
We understand that submittals given under the head a) General and Process shall be submitted during the bidding stage. All other documents shall be submitted after award of contract.

Kindly confirm.</td><td>The Tenderer shall submit all the document specified under the clause 3.16.4 Bid Drawings and Details for (a) General and Process, (b) Mechanical, (c) Electrical & Instrumentation. However, the "To-scale dimensional layout and/or installation drawings" as specified under the clause 3.16.4 (b) Mechanical (i) can be omitted during the bidding stage. However, Tenderer shall provide a undertaking for non-submission.</td></tr>
<tr><td>35</td><td>Volume – 4 Drawings</td><td>Proposed Plot Plan</td><td>Kindly request to provide the proposed plot plan in AutoCAD format.</td><td>Refer Addendum-1</td></tr>
</table>

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>36</td><td>Volume-2 / Section-7, Part 5 -40

Volume-2 / Section-7, Part 5 -44

Volume-2 / Section-7, Part 5 -49</td><td>SECONDARY CLARIFIERS (EA PROCESS)

SECONDARY CLARIFIERS (IFAS PROCESS)

SECONDARY CLARIFIERS (MBBR PROCESS)</td><td>Tender mentions that, bidder shall provide calculations for operating the WwTP at Design Flows with 1 tank/unit/module offline for maintenance.

We presume that the same is applicable for secondary clarifiers as well.

Kindly Confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>37</td><td>Volume-2 / Section-7, Part 8 –115</td><td>8.20 Primary/Secondary Clarifiers</td><td>We understand that all wetted part of Primary/Secondary Clarifiers shall be of SS 316L considering the 10 years of operation and maintenance.

Kindly Confirm.</td><td>Superior material than specified in the tender can be adopted with justification and without any cost implication to BWSSB.</td></tr>
<tr><td>38</td><td>Volume-2 / Section-7, Part 5- 9</td><td>The floors of all liquid-holding structures shall be appropriately sloped and trenches and drain sumps shall be provided at the bottoms of such slopes to facilitate complete drainage of liquid……</td><td>Generally, slope is not required in aeration basin. RAS/SAS pump pit shall be provided in aeration basins for sludge collection and pumping.

If slope is provided, it will affect the diffuser grid installation, alignment and performance.

Kindly Confirm.</td><td>The slope requirement shall be as per the tender requirement. And bidder can propose very mild slope may be of 1:5000.</td></tr>
<tr><td>39</td><td>Volume-2 / Section-7, Part 5- 9</td><td>For liquid-holding structures, the drain piping and fittings shall be sized such that the entire structure can be drained by gravity in no more than eight (8) hours.</td><td>We understand that this requirement is not applicable to aeration tank.

Kindly Confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>40</td><td>Volume-2 / Section-7, Part 5- 9</td><td>The Plant Drain Pumping Station, Plant Drain Pumps, and other related equipment and controls shall be designed and sized to allow draining of the structure with the largest volume from full to empty within eight (8) hours.</td><td>We understand that this requirement is not applicable to aeration tank.

Kindly Confirm</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>41</td><td>General</td><td>MOC Of Pipe line for Various Applications</td><td>MOC for pipe line are missing in the tender document. We request you to allow us to provide following MoCs for Various applications:
<table>
<tr><th>Sr. No.</th><th>Service</th><th>Type of Flow</th><th>MOC</th></tr>
<tr><td>1</td><td>Waste Water / Sludge</td><td>Gravity</td><td>RCC NP-3 Class</td></tr>
<tr><td>2</td><td>Waste Water / Sludge</td><td>Gravity/Pressurized</td><td>CI Class "LA" / DI K-9</td></tr>
<tr><td>3</td><td>Service Water</td><td>Gravity / Pressurized</td><td>GI "C" Class</td></tr>
<tr><td>4</td><td>Air Lines: Headers, Vertical Down-comers</td><td>Pressurized</td><td>Above Water: MS Sand/Shot Blasted, Epoxy Painted

Under Water: SS 304</td></tr>
<tr><td>5a</td><td>Air Grid Piping: Aeration Zone</td><td>Pressurized</td><td>UPVC Schedule 40</td></tr>
<tr><td>5b</td><td>Air Grid Piping: Selector Zone</td><td>Pressurized</td><td>SS 304</td></tr>
<tr><td>6</td><td>Chemicals</td><td>Gravity / Pressurized</td><td>SS 304 except Chlorine & FeCl3</td></tr>
<tr><td>7</td><td>Chlorine & FeCl3</td><td>Gravity / Pressurized</td><td>Schedule 40 UPVC</td></tr>
</table>
Kindl</td><td>Tender Conditions Prevails.</td></tr>
</table>

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
42	Volume-2 / Section-7, Part 7 -54	PLC shall be provided as a Hot Stand-by Controller	We understand that redundant PLC has been specified to avoid long interruption in the plant operation & controls. Alternatively, it can also be achieved by providing normal non-redundant PLC along with spares such as pre-programmed PLC hardware like CPU, Power supply etc. In the unlikely event of PLC system failure, the same can be made functional within 1-2 hrs with the help of the spares. Kindly confirm that we can consider non-redundant PLC with required spares.	Not Acceptable. The Plant master controller station shall be provided with two identical central processors configured such that they operate in Hot-Standby mode. The system shall be designed and implemented such that when the Main processor fails, the Standby one shall automatically take over. The changeover shall be seamless, smooth and without any time delay and this Hot-Standby feature is to be proposed for WwTP SCADA control room as per Clause No.13.27, Part-13, Volume-2 of the Tender Document. Hence, the Tender Condition Prevails.
43	Volume 2/Section 7, Part 7-54 & part 7-56	7.13.1 Redundant SCADA Dual redundant SCADA system and Historian software Operator work Station, loaded with Runtime SCADA Server SCADA Operator work station with licensed SCADA software SCADA Engineering work station with licensed SCADA software	Operator available in STP plant are not skilled to do programming of SCADA system and it is dangerous to do changes in SCADA with them. For this Expert programmer is required, who always carry required licenses with them. Hence, we request you to consider runtime software for SCADA.	Not Acceptable. The PLC cum SCADA software's capable of modification on Control System Logic updation cum SCADA Screen Graphics during run time without any impact on WwTP Process. The Control Logic & SCADA Graphics screens tested & witnessed during Factory Acceptance Test (FAT) at authorized Original Equipment Manufacturer's (as per approved OEMs list in Part-13) workshop and PLC Logics cum SCADA Graphics Screens in line with approved Plant Operational control philosophy prior to dispatch to site as per Clause No. 14.19.B, Part-14 of tender document. Hence, the critical logic updation are not allowed at site only minor modifications shall be updated through authorized licensed programmer of original equipment manufacturer's for which necessary training provided by authorized licensed programmer to the O&M team as per Clause no.15.1.6, Part-15 in tender document. The SCADA shall be a fully dual redundant microprocessor based computer system such that reliable and fully automatic plant control can be achieved by using Hot-Standby PLC system. The SCADA software functions are to be complied as per clause nos.13.27,13.34 & 13.35, Part-13 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.
44	Volume-2 / Section-7, Part 7 -56	Historian Software	Alarm & trends are store in computer-based SCADA with inbuilt capability SQL server, hence separate system is not required to store data. We request you to consider PLC & SCADA system without Historian.	Not Acceptable. In addition with Redundant SCADA system, the Historian software system shall be designed and configured to store data for a minimum of seven years data retrieval as per Clause No.7.13.4, Part-7 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.
45	SECTION 2, INSTRUCTIONS TO TENDERERS (ITT) Page 12 of 178	3.1.2. (b)(ii) Construction Experience- Reuse Plant (with Tertiary Level)---	The technology proposed for tertiary treatment is ultrafiltration process. Ultrafiltration system is the most critical aspect of the tertiary treatment plant as the system guarantee is dependent upon the UF design and membrane technology . Hence, it shall be mandatory to tie-up with membrane supplier as per the following experience criteria :- "Bidder must tie-up with the ultra-filtration membrane supplier or its authorized distributor for Ultrafiltration Technology and shall submit Technology Tie-up Agreement as a part of their technical bid. The membrane supplier or its authorized distributor shall have experience of providing proposed ultrafiltration system for at least One (1) TTP of min. 7.5 MLD capacity (Net output) in India for any State/Central Government organizations /ULB's which is working satisfactorily for at least two years as on date of calling of tender. Performance Certificate for work should be issued by the end user, duly certified by officer not below the rank of Executive Engineer should be enclosed." Kindly confirm.	Not Acceptable, Tender Conditions Prevails.

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>46</td><td>SECTION 2, INSTRUCTIONS TO TENDERERS (ITT)

Page 12 of 178</td><td>3.1.2. (b)(ii)
Construction Experience- Reuse Plant (with Tertiary Level)

The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent
<table><tr><th>Parameter</th><th>Unit</th><th>Specified Maximum Concentration</th></tr><tr><td>Turbidity</td><td>NTU</td><td>≤ 2</td></tr><tr><td>TDS</td><td>mg/l</td><td>≤ 1000</td></tr><tr><td>TN</td><td>mg/l</td><td>≤ 5</td></tr><tr><td>BOD</td><td>mg/l</td><td>≤ 5</td></tr><tr><td>COD</td><td>mg/l</td><td>≤ 30</td></tr><tr><td>TP</td><td>mg/l</td><td>≤ 1</td></tr><tr><td>Fecal Coliform</td><td>mg/l</td><td>NIL</td></tr></table></td><td>The technology proposed for tertiary treatment is ultrafiltration process. As per tender, the bidder needs to have experience in Reuse Plants with the total Nitrogen Guarantee of < 5 mg/L . However in reuse plants using treated sewage, TN guarantee of < 5 mg/L cannot be guaranteed after Ultra-Filtration Systems ; since total nitrogen removal in Ultrafiltration Systems will be incidental to the removal of Suspended solids.

Hence we request you to allow TN guarantee at outlet of Tertiary Treatment Plant as < 10 mg/L or As Arising for experience criteria.

Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>47</td><td>SECTION 2, INSTRUCTIONS TO TENDERERS (ITT)

Page 12 of 178</td><td>3.1.2. (b)(ii)
Construction Experience- Reuse Plant (with Tertiary Level)
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Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>48</td><td>TSPS & WwTPs Design / Sizing Criteria

Part 5-32

&

Part 5-58</td><td>TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>TN</td><td>mg/l</td><td>< 5</td></tr></table>&
Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>Membrane Pore Size</td><td>-</td><td>0.01 – 0.03 microns to remove suspended solids, bacteria and viruses</td></tr></table></td><td>The technology proposed for tertiary treatment is ultrafiltration process as per tender. Ultrafiltration membranes are designed to remove suspended solids, bacteria and viruses ; also mentioned in Part 5-58. Hence Nitrogen removal in Ultrafiltration Systems will be incidental to the removal of Suspended solids and cannot be guaranteed.

Hence we request you to allow Total Nitrogen Removal guarantee at outlet of Tertiary Treatment Plant after Ultrafiltration as < 10 mg/L or As Arising .

Please confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>49</td><td>TSPS & WwTPs Design / Sizing Criteria

Part 5-32

&

Part 5-58</td><td>TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)
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Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>Membrane Pore Size</td><td>-</td><td>0.01 – 0.03 microns to remove suspended solids, bacteria and viruses</td></tr></table></td><td>The technology proposed for tertiary treatment is ultrafiltration process as per tender. Ultrafiltration membranes are designed to remove suspended solids, bacteria and viruses ; also mentioned in Part 5-58. Hence the incoming TDS shall pass unobstructed through the Ultrafiltration membrane. TDS outlet of <1000 mg/l can be guaranteed as long as the incoming TDS to Ultrafiltration Unit is < 1000 mg/L.

Hence we request you to delete the guarantee for TDS or allow TDS guarantee at outlet of Tertiary Treatment Plant as “As Arising ” .

Please confirm.</td><td>Tender Conditions Prevails.
TDS at outlet of <1000 mg/L can be guaranteed as long as the influent sewage TDS is < 1000 mg/L.</td></tr>
<tr><td>50</td><td>TSPS & WwTPs Design / Sizing Criteria

Part 5-58</td><td>Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>Reuse Flow</td><td>MLD</td><td>7.5</td></tr></table></td><td>We Assume that Reuse Flow means flow at outlet of Ultrafiltration Plant (Permeate Flow).

Please confirm.</td><td>Refer Addendum-1</td></tr>
</table>

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>51</td><td>TSPS & WwTPs Design / Sizing Criteria

Part 5-58</td><td>Reuse Facilities:
<table><tr><td>Item/Parameter/Description</td><td>Units</td><td>WwTP at Kogilu</td></tr><tr><td>No of Membrane Trains</td><td>Nos</td><td>4</td></tr></table></td><td>The terminology of membrane “trains” is applicable to Pressurised ultrafiltration systems and not to Submerged ultrafiltration systems; since the membrane modules are immersed in tanks or cells. Hence we assume that trains mentioned in the specified clause shall refer to “cells or tanks” for Submerged ultrafiltration systems . Also, the number of tanks or cells shall be as per the recommendation of UF vendor.
Please confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>52</td><td>TSPS & WwTPs Design / Sizing Criteria
Part 5-58</td><td>Reuse Facilities:
<table><tr><td>Item/Parameter/Description</td><td>Units</td><td>WwTP at Kogilu</td></tr><tr><td>No of Feed Pump/Permeate Pump (Working)</td><td>Nos</td><td>3</td></tr><tr><td>Capacity of each feed pump / permeate pump</td><td>m^3/hr</td><td>130</td></tr></table></td><td>The tender specifies number of Working Feed Pumps/Permeate Pump to be 3 Nos. The Number of Working Pumps can be more or less as per UF vendor design and type of UF – submerged /pressurised .

Hence please allow the number and capacity of Feed Pump/Permeate Pump to be as per UF vendor recommendation.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>53</td><td>TSPS & WwTPs Design / Sizing Criteria
Part 5-58</td><td>Reuse Facilities:
<table><tr><td>Item/Parameter/Description</td><td>Units</td><td>WwTP at Kogilu</td></tr><tr><td>Minimum UF Plant Recovery</td><td>%</td><td>95</td></tr></table></td><td>Maximum Recovery possible through UF systems is ~ 93-94 %. Extra Recovery is achieved only through additional UF backwash recovery systems that will treat the UF Backwash Waste and make it available for reuse.

Since surplus flow is available at the inlet of UF plant, we request you to allow minimum recovery of 93 % for UF plants.

Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>54</td><td>TSPS & WwTPs Design / Sizing Criteria
Part 5-58</td><td>Reuse Facilities:
<table><tr><td>Item/Parameter/Description</td><td>Units</td><td>WwTP at Kogilu</td></tr><tr><td>Membrane Pore Size</td><td>-</td><td>0.01 – 0.03 microns to remove suspended solids, bacteria and viruses</td></tr></table></td><td>Ultrafiltration Porosity ranges from 0.01 to 0.07 microns with most of the industry adopting for 0.04 microns as the nominal size.
Therefore, we request you to allow 0.04 microns nominal pore size for UF membrane .

Kindly confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>55</td><td>TSPS & WwTPs Design / Sizing Criteria
Part 5-58
&
8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-111</td><td>Reuse Facilities:
<table><tr><td>Item/Parameter/Description</td><td>Units</td><td>WwTP at Kogilu</td></tr><tr><td>Membrane Material (MOC)</td><td>-</td><td>Poly-Vinyli-Dene-Fluoride (PVDF) reinforced with polyester or polypropylene backing layer.</td></tr></table>&
K. PVDF Membrane with Braided
The membrane fiber features a Braided PVDF membrane formulation cast on polyester support braid.</td><td>PVDF Reinforced with polyester is not required for submerged ultrafiltration systems that operate on lower pressures than Pressurised UF systems.
Hence please allow the bidder to provide more superior monolithic membranes made up of 100 % PVDF for submerged ultrafiltration system that have the following advantages
□ More Efficient than braided PVDF membranes as the PVDF layer tends to pe off during operation leading to loss of functionality
□Longer Membrane Life over braided-PVDF membrane
□More Reliable
□Lesser Chemical Consumption as compared to braided PVDF

Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>56</td><td>TSPS & WwTPs Design / Sizing Criteria
Part 5-58</td><td>Reuse Facilities:
<table><tr><td>Item/Parameter/Description</td><td>Units</td><td>WwTP at Kogilu</td></tr><tr><td>Membrane Type</td><td>-</td><td>Submerged (out-to-in) or Pressurized (outside-in or inside-out) hollow fiber membranes, designed to handle peak plant flow conditions.</td></tr></table></td><td>The tender specifies that the ultrafiltration system needs to be designed to handle peak plant flow conditions.
However as per tender, UF feed pumps of required capacity shall pump water to the ultra-filtration system in order to generate 7.5 MLD of permeate flow.

Hence we assume that peak plant flow conditions are not applicable for design of ultrafiltration system. Please confirm.</td><td>Refer Addendum-1</td></tr>
</table>

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
57	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description: Maximum Membrane Flux rate; Units: -; WwTP at Kogilu: 30 LMH	The Maximum membrane flux mentioned in tender i.e. 30 LMH is applicable for MBR systems that operate under high solids load (>5000 mg/L) For UF systems that treat secondary treated waste water the solids load will rarely exceed 20 mg/L . In such a case , lower flux is not required and will result in substantial increase in capital cost without any significant benefit to the client. Hence we request you to allow Average Membrane Flux rate to be ≤ 40 LMH. Please confirm.	Tender Conditions Prevails.
58	TSPS & WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description: UF Membrane design load factor (on BOD and TSS); Units: -; WwTP at Kogilu: 2	Please confirm that load factor for UF membrane design refers to design safety on inlet parameters to UF system. Also, since UF membranes are designed for suspended solids removal, the design safety or load factor of two shall only be applicable on inlet TSS values to UF System. Please confirm.	Tender Conditions Prevails.
59	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-107	D. Working Principle of Submerged UF Process: After mechanical pretreatment, the wastewater is fed to the membrane tanks where the water is separated from the solids by the SUF membranes. The liquid is typically fed below the submerged membrane modules.	We assume that bidder can provide rotary drum screens as mechanical pre-treatment for submerged ultrafiltration process. Please confirm.	Tender Conditions Prevails. It is after Disc filtration system only.
60	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-110	I.Single Header Design • The SUF product consists of bundles of hollow fiber membranes potted only at the lower end of each bundle. The non-potted ends of the fibers (at the top of the bundle) are individually sealed and move freely in the liquid.	The tender specifies that the submerged ultrafiltration system shall have single header design. However the problems associated with double header design are only observed in MBR systems due to the presence of fibrous material and high amount of MLSS in MBR tanks. Both of the issues are not present in treated sewage. Double header designs are more efficient since it allows for uniform withdrawal of water from the modules. Hence please allow the bidder to offer submerged ultrafiltration header design as per the UF manufacturer recommendation / design. Please confirm.	Refer Addendum-1
61	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-113	Technical Particular: Spare Space for module per train; Parameters: 10 %	We understand that for submerged UF system "train" shall refer to "cell/tank" and 10 % spare space for module shall be provided per "cell/tank". Kindly confirm.	Refer Addendum-1
62	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-113	Technical Particular: Minimum Operating Life of Membrane; Parameters: Years: 10	The minimum operating life of membranes depends upon various factors , type of system , vendor etc. and typically ranges from 5 years for Pressurised Ultrafiltration system to 7 years for submerged ultrafiltration system. Hence we request you to allow the bidder to provide Minimum Operating Life of Membrane as 7 years. Please confirm.	Tender Conditions Prevails.
63	Volume 1 / A. GENERAL, Pg.No.20	Earnest Money Deposit (EMD) - The Tenderer shall furnish, as part of his tender, earnest money deposit in the amount as shown in column 5 of the Table of IFT for this particular work. This earnest money deposit shall be in favour of Chairman, BWSSB through KPPP, payable at BANGALORE from any Nationalised / Scheduled Indian banks.	We request you to please allow EMD in the form of Bank Guarantee instead of Online payment. Kindly Confirm	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
	Volume 2/Section 7 part-1	A RCC Precast compound wall shall be constructed for alength of not less than 100m.	WE kindly request to provide the typical drawing of compound wall for estimation	Please refer Cl.no. 1.28, volume 2, section 7 and Sketch 1 &2 of part 11.
65	Volume 2 / Section 7 Part - 11, Pg.No.20	All roads shall be designed and constructed as per the specifications and as per site requirements. Bidder shall provide minimum 3.5 m wide internal roads with 1.50m shoulder on one side, which shall be utilised for future expansion of the internal road and 5.0 m wide approach road shall be provided until WwTP Entry gate from the nearby Main Road or Highway. 1.5 m shoulder on both sides of the road shall be provided as per site requirement and as directed.	Request you to provide the section of road.	Please refer Cl.no. 1.23, volume 2, section 7 of part 11 and chapter 5 of part10.
66	Volume 2 / Section 7 Part - 10, Pg. No.23	Earthwork for high embankment : In the case of high embankments, the Contractor shall normally use the material from the specified borrow area. In case he desires to use different material for his own convenience, he shall have to carry out necessary soil investigations and redesign the high embankment at his own cost. The Contractor shall then furnish the soil test data and design of high embankment for approval of the Engineer, who reserve the right to accept or reject it.	Request to provide the soil investigation report of proposed site to decide the foundation depth of civil structures for estimation purpose.	Minimum requirements at the site are mentioned in Cl.no. 1.6 of part 1 in volume 2, section 7. However, the bidders are requested to make individual site visit and bid as per the actual site requirements. Also please refer to Cl.no. 1.14 & 1.15 of part 11, volume 2 section 7, Maximum safe bearing capacity and pile capacity of soil strata shall be taken as determined by the Bidder through his own independent investigations.
67	Volume 2 / Section 7 Part - 1,	All preparatory wok including cleraing, levelling of site, site grading, formation of FGL, construction of internal roads, all around compound wall etc., excavation, dewatering as required and disposa of all surplus earth to a sutiable location as specified by Enginer	Request to specify the distance of disposal of surplus excavated material/unserviceable material from proposed plot site.	The tenderers are requested to make individual site visit and bid as per the actual site requirements.
68	Volume 2 / Section 7 Part - 8, 197	All surplus materials, and all tools and temporary structures shall be removed from the site as directed by the Engineer and the construction site left clean to the satisfaction of the Engineer.	Request to specify the distance of disposal of surplus excavated material/unserviceable material from proposed plot site.	The bidders are requested to make individual site visit and bid as per the actual site requirements.
69	General	Site clearance work	We request that all site clearance work ncluding removal of debris, existing strcuture (if any) , any etxra excavation and dewatering work shall be considered as a separate item and paid additonally as this scope is typically variable and not clearly quantititable at tender stage.	Since this is a turnkey project for WwTP and ISPS plants under Works-A, the bidder is requested to quote accordingly.
70	Volume 2 / Section 7 Part - 5, 115 - 118	TSPS Bar screen & Coarse Screen & WWTP fine screen Unit	We kindly request you to allow bidder to use Screen Unit MOC SS304 instead of SS316L	Tender Conditions Prevails.
71	Volume 2 / Section 7 Part - 5, 119	Grit Mechanism	We kindly request you to allow bidder to use Detritus type Grit Mechanism instead of vortex grit mechainsm.	Tender Conditions Prevails.
72	Volume 2 / Section 7 Part - 5, 119	Grit Mechanism	We kindly request you to allow bidder to use Screen Unit MOC SS304 instead of SS316L	Tender Conditions Prevails.
73	Volume 2 / Section 7 Part - 8, 360	8.9.14 Screw Conveyor with compactor Technical specifications of Screening Conveyor	We kindly request you to allow bidder to use Belt Conveyor instead of screw conveyor for conveying the floating debris.	Tender Conditions Prevails.
74	Volume 2 / Section 7 Part - 8, 389	7. Odour Control system with Odour enclosure for the complete system connected to COMPACT Pre-Treatment System (COMBI Unit) A. Dual Stage Odour Control System	We understand that bidder to provide odour control system for pretreatment system only of WWTP please confirm.	Yes, confirmed. Odour Control system shall be adopted in Combi unit Pre-treatment system.
75	Volume 2 / Section 7 Part - 8, 400	8.18.3 Air Header and Drop legs (a) Header and drop legs shall be constructed of 316 stainless steel.	We kindly request you to allow bidder to use Air header MOC - MS epoxy coated instead of SS316 & Drop legs MOC - SS304 instead of SS316	Tender Conditions Prevails.
76	Volume 2 / Section 7 Part - 8, 437	8.23 Conveyor System (a) For the disposal of sludge a common motor driven endless belt conveyor shall be provided. The conveyor shall be designed in accordance with IS 11592 or equivalent. The conveyor and chutes shall be suitable for handling occasional heavy objects which will cause shock loads.	We understand that the bidder is required to provide a belt conveyor for sludge disposal at the outlet of the sludge dewatering unit. However, as per standard practice, sludge is typically collected directly in a sludge collection trolley placed on the ground below the dewatering unit outlet. soin that case there is no need of a belt conveyor for sludge disposal, kindly confirm the same	Tender Conditions Prevails.
77	Volume 2 / Section 7 Part - 8, 468	8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment	We kindly request you to allow following make for mechanical equipments 1. Submersible Pump - Aqua Pump 2. Submersible Mixer - Jash Invent	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
78	General	Process Air Blower for all treatment Process	We kindly request you to allow bidder to use Energy efficient super Helical Hybrid Blowers as it is Positive Displacement Blower has cutting edge technology, next generation, innovative design, unmatched performance, supply as Integrated package that comprises of High Efficient Helical Blowers, high efficiency IE3 Electric motors of reputed makes – ABB/Siemens/CGL/BBL makes. Complete package has designed to sustain with Indian environment conditions , for long service life around 25 years, subject to preventing maintenance, so complete package unit is reliable, efficient & proven over long span for low operation cost & life cycle cost.	Not Acceptable. Tender Conditions Prevails.
79	Volume 2 Section 7/15.20.1	HRT of SBR basin average flow=24 Hrs	The HRT of SBR basin shall be as per design of technology provider or as per the range mentioned in CPHEEO for BSR. Please confirm	Tender Conditions Prevails.
80	Volume 2 Section 7/15.20.1	CCT, CCT efflunet, CCT outfall structure , disinfection system are asked to Design for 100% Peak flows including recycle flows- Irrspective process	Design of all these units shall be for decanter flow for SBR. Please confirm	Tender Conditions Prevails.
81	Volume-2/ Section-7, Part5-31	Influent wastewater Characteristics pH — 6.5-7.5 BOD — mg/L — 350 COD — mg/L — 800 TSS — mg/L — 450 VSS — mg/L — 360 TKN — mg/L — 70 NH4-N — mg/L — 45 Total Phosphorus — mg/L — 7	As per the clause referenced in the tender document, the BOD value of 350 mg/L corresponds to a COD of 800 mg/L, which indicates a relatively high COD/BOD ratio. Typically, as per CPHEEOguidelines,a BODof 250mg/LwithaCODof425mg/Lisconsidered standard. Weassumethatthesewagedoesnotcontainany industrial effluent andthatthe COD is primarily biodegradable. Please confirm	The design influent parameters requirement shall be as defined Part 5, Cl.no. 15.20.1, "TSPS & WwTPs Design / Sizing Criteria".
82	Volume-2/ Section-7, Part5-31	Influent Wastewater Characteristics COD — mg/L — 800	We presume that there is no ingress of industrial effluent in the sewage, and that more than 95% of the COD is biodegradable, with less than 5% being non-biodegradable. Alternatively, the treated effluent COD performance requirements may be considered for relaxation, provided the Contractor can demonstrate that apportion of the influent COD is non-biodegradable and cannot be removed using the existing treatment processes at the Works. Please confirm.	Bidder may consider Non-biodegradable COD as per the bidder design.
83	Volume-1/Page 11 of 178	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i) 3.1.2.(b)(i)Experience in Execution of WwTPs The Tenderer as a sole entity or a Lead Partner and or Partner in a Joint Ventureshallhavesuccessfullycompleted,includingDesign,Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One(1)No. WwTP of 12 MLD capacity and above or Two (2) Nos. Waste Water Treatment Plants of minimum 6 MLD capacity with Biological Nutrient Removal(BNR)technologyofprocesslike,A2O,EA,IFAS,MBBR,SBR, with SCADA Integration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 10 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and fecal coliform < 100MPN/100ml should be in operation for a period of one year during the last 5 years as on date of Bid submission.	As per the Tender document, the Technology Provider is required to demonstrate that they have successfully supplied the specified technology for atleast one Wastewater Treatment Plant (WWTP), as outlined in clause 3.1.2 (b)(i). We understand that this clause refers to the effluent quality at the final discharge point of the Sewage Treatment Plant (STP), rather than immediately following the secondary treatment stage. Accordingly, to demonstrate compliance,the Technology Provider for the secondary treatment system must ensure that the final treated effluent meets the following parameters, as specified— excluding fecal coliform: •BOD≤ 10mg/L •COD≤ 50mg/L •TSS≤ 10mg/L •TotalNitrogen(TN)≤10mg/L •TotalPhosphorus(TP)≤1mg/L Please confirm.	Refer Addendum-1

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
84	Volume-1/Page 11 of 178	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i)	As per the Tender document, the Technology Provider must submit evidence of having successfully supplied the technology for atleast one(1)wastewatertreatment plant(WWTP),in accordance with Clause 3.1.2(b)(i). We observe that the clause does not clearly specify the required capacity of the reference WWTP. However, it is our understanding that the Technology Provider is expected to demonstrate experience in supplying the technology for atleast one (1) WWTP of 12 MLD capacity, as per the intent of Clause 3.1.2(b)(i). Please confirm.	Yes, technology provider shall also abide to the PQ required defined in Clause 3.1.2. (b) i
85	Volume-2/ Section-7, Part5-51	N-1condition:-The Bidder shall provide calculations for operating the WwTP at Design Flow with 1 SBR tank offline for maintenance.	In the earlier BWSSB tender—specifically the CP25 package and the 10 MLD STP at Jakkur, which adopted SBR technology—this particular clause was omitted. We presume that a similar approach will be adopted for the current tender as well. Please confirm.	Tender Conditions Prevails.
86	Volume-2/ Section-7, Part5-51	HRTataverageflow:24Hrs.	Hydraulic Retention Time (HRT) is a derived parameter based on the selected SBR cycle time and the inlet sewage characteristics. We understand that the HRT should be determined in accordance with the process requirement sand the Technology Provider's recommendations to meet the effluent quality standards specified in the tender. Please confirm.	Tender Conditions Prevails.
87	Volume-2/ Section-7, Part5-52	MaximumDecanterWeirloadingrate: 120 m3/h/m	IntheearlierBWSSBtendersforCP25,CP26,and CP27 packages based on SBR technology, the maximum decanter weir loading rate was specified as 125 $m^3/h/m$ (Addendum-8). Weassumethatthissameratewillbeapplicableto the current tender as well. Please confirm.	Tender Conditions Prevails.
88	Volume-2/ Section-7, Part8-98	Decanters(ForSBRsystem)	We assume that all decanter specifications will be acceptable based on the technology provider's standard specifications, as the bidder is required to submit the technology tie-up agreement in the technical bid. Please confirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.
89	Volume-2/ Section-7, Part8-98	Decanters(ForSBRsystem) All the withdrawal SS 316L Pipes shall be of thickness not less than Schedule 20S above 200 mm and Schedule below 200 mm shall be of Schedule 40S, and all the pipes shall be of Seamless type only.	Itispresumedthatthedecantermechanismforms an integral part of the technology components. Additionally, the bidder is requiredto submitthe Technology Tie-Up Agreement as part of the technical bid. Accordingly, the pipe schedule(s) mentionedunderthedecanterspecificationsshall not be applicable to the decanter system. Kindlyconfirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
90	Volume-2/ Section-7, Part5-53	8.ProcessAirBlowers α:OxygenTransferCorrectionFactor - 0.6 β:Salinity-SurfaceTensionCorrectionFactor-0.95 F: Fouling Factor - 0.8	The factors provided in the tender document— Alpha, Beta, and the Fouling Factor—are dependent on the type of diffuser, material of construction (MoC), and self-cleaning capacity, which can vary with in the range specified in the latest edition of Metcalf and Eddy. Therefore, we assume that these factors can be considered in accordance with the latest edition of Metcalf and Eddy for designing the aeration system. Please confirm.	Tender Conditions Prevails.
91	Volume-2/ Section-7, Part8-82toPart 8-101	8.18 Aeration system with allied Equipments 8.18.1 Tubular Type Diffusers & 8.18.15.2 Diffuser system for IFAS 8.18.15.3 Type of Diffuser System 8.18.15.4 Diffuser Elements 8.18.15.5 Testing for Diffuser system 8.18.15.6 Air Piping to Diffusers	The Tender document specifies two different diffuser specifications as outlined in the referenced clause. We understand that the diffuser specifications provided in Clause 8.18.15.2 to 8.18.15.6 are applicable to the aeration system for all secondary	Diffuser specification shall be as per Cl.no.8.18.1 only and Cl.no. 8.18.15.2 to 8.18.15.6 stands deleted. Refer Addendum-1
92	Volume-2/ Section-7, Part8 -90	<table><tr><th>Si.no.</th><th>Description</th><th>Materialof Construction</th></tr><tr><td>f</td><td>Acoustic enclosure</td><td>Al-Zn coated steel, insulated with glass wool</td></tr></table>	Recently, various materials of construction(MOC) for acoustic enclosures for turbo air blowers have become available. We kindly request permission for the tenderer to provide an acoustic enclosure for the turbo blower based on the manufacturer's standard MOC. Please confirm.	Superior material than specified in the tender can be adopted with justification and without any cost implication to BWSSB.
93	Volume-2/ Section-7, Part8 -161	40DiscFiltrationSystem List of Approved Suppliers: Manufacturer for Disc Filter: M/s Hydro Tech M/s Xylem M/s Estragua M/sJashInvent M/s Huber M/s Aqua Aerobics M/s Evoqua water Technologies	M/s Yucheon has been accepted as a disc filter supplier in several previous BWSSB tenders, includingtheSTPpackagesofCP-25,26,and27, the 10 MLD STP at Jakkur, the 150 MLD Capacity STP Based on ASP with BNRSystemat V Valley, the 60 MLD Capacity STP with IFAS Process at Hebbal, the 5 MLD STP at Chikkabanavara, the 40 MLD STP at Rajacanal (Phase II), and the 60 MLD Capacity STP with IFAS Process at Horamavu. Therefore, we assume that the tenderer can propose M/s.Yucheon Fiber Disc Filter for this tender. Please confirm.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
94	Volume-2/ Section-7, Part5-56	DISC FILTER Designflowperunit:Designedfor100%PeakFlowsincludingrecycle flows - Irrespective process	We understand that the design flow for the disc filter unit should be based on the maximum incoming flow to the unit. In the case of the SBR system, the FDF unit should be designed based on the average flow or the decant flow, whichever is higher.	Tender Conditions Prevails.
95	Volume-2 Section-7, Part 1 -7 Volume-2 Section-7, Part 5-32	<table><tr><th>Parameters</th><th>Unit</th><th>Value</th></tr><tr><td colspan="3">TREATED EFFLUENT QUALITY REQUIREMENTS - DISCHARGE</td></tr><tr><td>pH - Instantaneous range</td><td>-</td><td>6.5-8.0</td></tr><tr><td>BOD_5 at 20°C - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>COD - Maximum monthly average</td><td>mg/L</td><td>50</td></tr><tr><td>TSS - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>TN - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>Total Phosphorus - Maximum monthly average</td><td>mg/L</td><td>1</td></tr><tr><td>Residual Chlorine - Instantaneous</td><td>mg/L</td><td>1</td></tr><tr><td>Fecal Coliform – Maximum Monthly average</td><td>MPN/100 mL</td><td>100</td></tr><tr><td>Fecal Coliform – Ceiling Limit (in any day)</td><td>MPN/100 mL</td><td>230</td></tr></table>	As per the tender document, the treated effluent quality parameters such as BOD, COD, TSS, TN, and TP are expected to be achieved at the outlet of the biological treatment process (e.g., SBR). Therefore, a Disc Filter is not required solely to meet these parameters. Accordingly, we understand that the provision of a Disc Filter shall be basedon the process requirement.	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
96	Volume-2 Section-7, Part8-136		The specifications provided for Disc Filters appear to be specific to a particular vendor and are aligned with the offerings of only one or two vendors listed in the approved vendor list. Accordingly, we understand that the Disc Filter specifications shall be deemed acceptable as per the approved vendor's standard design. Kindly confirm.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
97	Volume-2 Section-7, Part8-138	Filter Membrane: Stain less steel screen/Mesh:SS-316L	In previous BWSSB tenders, including the 150 MLD Capacity STP Based on ASP with BNR System at V Valley, the 60 MLD Capacity STP withIFASProcessatHebbal,the5MLDCapacity STP at Chikkabanavara, the 40 MLD Capacity STP at Rajacanal (Phase II), and the 60 MLD Capacity STP with IFAS Process at Horamavu, polyester membranes with a 10-micron pore size have been allowed. Hence, we assume that the tenderer can also provide filter membranes made from polyester cloth or SS316 material for this tender. Please confirm.	Tender Conditions Prevails.
98	Volume-2/ Section-7, Part8 – 138	…..the automatic valve and suction cleaning pump which shall be.....	Nowadays, all vendors are supplying fiber disc filters with submersible centrifugal pumps for disc backwash, which do not require automatic valves at the discharge end. This type of arrangement has been accepted and supplied in several BWSSB tenders,suchasthe150MLDCapacitySTPBased on ASP with BNR System at V Valley, the 60 MLD Capacity STP with IFAS Process at Hebbal, the 5 MLD Capacity STP at Chikkabanavara, the 40MLDCapacitySTPatRajacanal(PhaseII),and the 60 MLD Capacity STP with IFAS Process at Horamavu, among others. Therefore, we understand that this arrangement should also be acceptable for the current tender.	For automatic Backwash operation this valve is suggested in fully submerged Disc filters, tenderer can follow alternative arrangement as per vendor recommendation, considering auto operation system of Backwashing based on clogging alarm.
99	Volume-2/ Section-7, Part8 -138	ProtectiveTopCoverandBodycoveralongwithframestructure:SS316 (Minimum 4mm for Body cover)	As per the tender document, we are proposing a fully submerged fiber disc filter. This type of filter does not require any covering, shed, or RCC roof. Therefore, we assume that a fully submerged fiber disc filter without a cover will be acceptable. Please confirm.	In cl.no. 8.26, Table "Technical Particulars Common for both Partially Submerged or Fully Submerged type Disc Filtration System", Tenderer can consider the specification, based on his design adopted either of two system. RCC structure as defined in the tender document is mandatory for both the system.
100	Volume-2/ Section-7, Part5-31	DISC Filter building	As per the tender document, we are proposing a fully submerged fiber disc filter. This type of filter does not require any covering, shed, or RCC roof. Therefore, we assume that a fully submerged fiber disc filter without a roof will be acceptable. Kindly confirm.	Tender Conditions Prevails.
101	Volume 2, Page no.TECHNICAL SCHEDULE X-2	a)Energy Consumption for TSPS, WwTP with Reuse PCA= [{PCD}*{(0.42*QA/QD)+(0.24*BA/BD)+(0.24*TA/TD)+(0.1*NA/ND)}]	The specified formula for energy consumption is not applicable in the case of the Terminal Sewage Pumping Station (TSPS), as energy usage in this context is based on the volume of sewage pumped rather than on pollutant load parameters such as BOD, TSS, or TKN. Accordingly, we understand that the formula provided for calculating energy consumption for the Intermediate Sewage Pumping Station (ISPS) should also apply to the TSPS. Please confirm.	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
102	Volume-2/ Section-7, Part5-55	ALUMDOSINGSYSTEM(FORALLTREATMENTPROCESSES)	As stated in the tender, an alum dosing system is required for chemical phosphorus removal. However, we assume that if the Total Phosphorus ≤1mg/L,as specified in the tender,is achieved biologically through the Biological Nutrient Removal process, then the alum dosing system will not be necessary. Therefore, the alum dosing system should be considered optional and provided only if required, based on the process requirements to achieve Total Phosphorus ≤ 1 mg/L. Please confirm.	Tender Conditions Prevails.
103	Volume-2/ Section-7, Part3-13& 3-14	3.16.4BidDrawingsandDetails (a)General and Process. (b)Mechanical (c)Electrical & Instrumentation	The tender specifies a large number of documents for submission. It is not feasible to submit all these documents at the bidding stage. We understand that the submittals under the categories a) General and Process shall be provided during the bidding stage, while all other documents will be submitted after the award of the contract.	The Tenderer shall submit all the document specified under the clause 3.16.4 Bid Drawings and Details for (a) General and Process, (b) Mechanical, (c) Electrical & Instrumentation. However, the "To-scale dimensional layout and/or installation drawings" as specified under the clause 3.16.4 (b) Mechanical (i) can be omitted during the bidding stage. However, Tenderer shall provide a undertaking for non-submission.
104	Volume-2/ Section-7, Part5-40/44/49	SECONDARY CLARIFIERS (EA PROCESS) SECONDARY CLARIFIERS (IFAS PROCESS) SECONDARYCLARIFIERS(MBBRPROCESS)	The tender states that the bidder must provide calculations for operating the WWTP at design flows with one tank/unit/module offline for maintenance. We assume that this requiremental so applies to secondary clarifiers. Please confirm.	Tender Conditions Prevails.
105	Volume-2/ Section-7, Part7-54	PLC shall be provided as a Hot Stand-by Controller	We understand that a redundant PLC system has been specified to prevent extended interruptions in plant operations and control. Alternatively, the same level of reliability can be ensured by using a standard non-redundant PLC system,supported by pre-programmed spare components such as CPU, power supply, etc. In the unlikely event of a PLC failure, the system can be restored within 1–2 hours using these spares. Please confirm whether an on-redundant PLC With essential pre-programmed spares is acceptable.	Not Acceptable. The Plant master controller station shall be provided with two identical central processors configured such that they operate in Hot-Standby mode. The system shall be designed and implemented such that when the Main processor fails, the Standby one shall automatically take over. The changeover shall be seamless, smooth and without any time delay and this Hot-Standby feature is to be proposed for WwTP SCADA control room as per Clause No.13.27, Part-13, Volume-2 of the Tender Document. Hence, the Tender Condition Prevails.
106	Volume2/Section 7,Part7-54&56	7.13.1 Redundant SCADA Dual redundant SCADA system and Historian software Operator work Station, loaded with Runtime SCADA Server SCADA Operator workstation with licensed SCADA software SCADA Engineering workstation with licensed SCADA software	The operators available at the STP are generally not trained to carry out programming or modifications in the SCADA system, and allowing them to do so may pose operational risks. SCADA modifications require expert programmers who possess the necessary licenses and skills. Therefore, we kindly request that only runtime software for SCADA be considered. Please confirm.	Not Acceptable. The PLC cum SCADA software's capable of modification on Control System Logic updation cum SCADA Screen Graphics during run time without any impact on WwTP Process. The Control Logic & SCADA Graphics screens tested & witnessed during Factory Acceptance Test (FAT) at authorized Original Equipment Manufacturer's (as per approved OEMs list in Part-13) workshop and PLC Logics cum SCADA Graphics Screens in line with approved Plant Operational control philosophy prior to dispatch to site as per Clause No. 14.19.B, Part-14 of tender document. Hence, the critical logic updation are not allowed at site only minor modifications shall be updated through authorized licensed programmer of original equipment manufacturer's for which necessary training provided by authorized licensed programmer to the O&M team as per Clause no.15.1.6, Part-15 in tender document. The SCADA shall be a fully dual redundant microprocessor based computer system such that reliable and fully automatic plant control can be achieved by using Hot-Standby PLC system. The SCADA software functions are to be complied as per clause nos.13.27,13.34 & 13.35, Part-13 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.

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Response to Pre-Bid Queries

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>107</td><td>Volume-2/ Section-7,
Part7-56</td><td>Historian Software</td><td>As alarms and trends are already stored within the computer-based SCADA system, which includes an inbuilt SQL server, a separate historian system is not necessary. Therefore, we request you to consider a PLC and SCADA system without the requirement for a separate historian.

Please confirm.</td><td>Not Acceptable. In addition with Redundant SCADA system, the Historian software system shall be designed and configured to store data for a minimum of seven years data retrieval as per Clause No.7.13.4, Part-7 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.</td></tr>
<tr><td>108</td><td>SECTION2,
INSTRUCTIONS TOTENDERERS (ITT)

Page12of 178</td><td>3.1.2. (b)(ii)
Construction Experience-Reuse Plant(with TertiaryLevel)</td><td>The proposed tertiary treatment technology is the ultrafiltration (UF) process. Given that the UF system is a critical component of the TTP and that the overall system guarantee is closely tied to membrane design and technology, it should be mandatory for the bidder to enter into a tie-upwith a qualified membrane supplier.

Accordingly, we propose the following qualification requirement:

“The bidder must establish a tie-up with the ultra- filtration membrane supplier or its authorized distributor and submit a Technology Tie-up Agreement as part of the technical bid. The membrane supplier or its authorized distributor must have experience in supplying the proposed ultrafiltration system for at least one (1) tertiary treatment plant of minimum 7.5 MLD capacity (net output) in India for any State/Central Government organization or ULB,whichhasbeen operational and performing satisfactorily for a minimum of two years as of the tender calling date. A performance certificate from the end user, certified by an officer not below the rank of Executive Engineer, must be submitted.”

Please confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>109</td><td>SECTION2,</td><td>3.1.2. (b)(ii)
Construction Experience-Reuse Plant(with Tertiary Level)
The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent
<table><tr><th>Parameter</th><th>Unit</th><th>Specified Maximum Concentration</th></tr><tr><td>Turbidity</td><td>NTU</td><td><2</td></tr><tr><td>TDS</td><td>mg/l</td><td><1000</td></tr><tr><td>TN</td><td>mg/l</td><td><5</td></tr><tr><td>BOD</td><td>mg/l</td><td><5</td></tr><tr><td>COD</td><td>mg/l</td><td><30</td></tr><tr><td>TP</td><td>mg/l</td><td><1</td></tr></table></td><td>The proposed technology for tertiary treatment is ultrafiltration. As per the tender, bidders are required to have experience in reuse plants with a Total Nitrogen (TN) guarantee of < 5 mg/L. However, in reuse plants using treated sewage, a TN guarantee of<5mg/L cannot be ensured after the ultrafiltration process. This is because total nitrogen removal in ultrafiltration systems is incidental to the removal of suspended solids.

Therefore, we kindly request that the TN guarantee requirement at the outlet of the tertiary treatment plant be adjusted to < 10 mg/L or as arising from the experience criteria.

Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>110</td><td>SECTION2,
INSTRUCTIONS TO TENDERERS (ITT) Page12of 178</td><td>3.1.2. (b)(ii)
Construction Experience-Reuse Plant(with Tertiary Level)
The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent
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Please Confirm.</td><td>Refer Addendum-1</td></tr>
</table>

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>111</td><td>TSPS &WwTPs Design / Sizing Criteria

Part5-32 & Part5-58</td><td>TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)
<table><tr><th>Item/Parameters/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>TN</td><td>mg/l</td><td><5</td></tr></table>Reuse Facilities:<table><tr><th>Item/Parameters/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>Mambrane Pore size</td><td>-</td><td>0.01-0.03 microns to remove suspended solids, bacteria and viruses.</td></tr></table></td><td>As per the tender, the proposed technology for tertiary treatment is the ultrafiltration process. Ultrafiltration membranes are designed to remove suspended solids, bacteria, and viruses, as outlined in referred Part of the tender. Therefore, nitrogen removal in ultrafiltration systems is incidental to the removal of suspended solids and cannot be guaranteed.
In light of this, we kindly request that the Total Nitrogen removal guarantee at the outlet of the tertiary treatment plant after ultrafiltration be set to <10mg/L or considered as "As Arising." Please Confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>112</td><td>TSPS &WwTPs Design / Sizing Criteria

Part5-32 & Part5-58</td><td>TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)
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In light of this, we kindly request that the TDS guarantee be deleted or that the TDS guarantee at the outlet of the tertiary treatment plant be considered as "As Arising."
Please Confirm.</td><td>Tender Conditions Prevails.
TDS at outlet of <1000 mg/L can be guaranteed as long as the influent sewage TDS is < 1000 mg/L.</td></tr>
<tr><td>113</td><td>TSPS &WwTPs Design / Sizing Criteria

Part 5-58</td><td>Reuse Facilities:<table><tr><th>Item/Parameters/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>Resuse flow</td><td>MLD</td><td>7.5</td></tr></table></td><td>We assume that the"ReuseFlow"referstothe flow at the outlet of the Ultrafiltration Plant (Permeate Flow).

Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>114</td><td>TSPS & WwTPs Design / Sizing Criteria

Part 5-58</td><td>Reuse Facilities:<table><tr><th>Item/Parameters/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>No. of Membrane Trains</td><td>Nos</td><td>4</td></tr></table></td><td>The term "trains" is typically used for pressurized ultrafiltration systems and does not apply to submerged ultrafiltration systems, where the membrane modules are immersedintanksorcells. Therefore, we assume that in the specified clause, the term "trains" refers to "cells or tanks" for submerged ultrafiltration systems. Additionally, the number of cells or tanks will be as per the recommendation of the UF vendor.

Please confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>115</td><td>TSPS &WwTPs Design / Sizing Criteria

Part 5-58</td><td>Reuse Facilities:<table><tr><th>Item/Parameters/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>No. of feed pump/permeate pump (Working)</td><td>Nos</td><td>3</td></tr><tr><td>Capacity of each feed pump /permeate pump</td><td>m3/hr</td><td>130</td></tr></table></td><td>The tender specifies the number of working feed pumps/permeate pumps as 3nos. However, the actual number of working pumps may vary based on the UF vendor's design and the type of UF system (submerged/pressurized). Therefore, we request that the number and capacity of feed pumps/permeate pumps be allowed to follow the UF vendor's recommendation.

Please confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>116</td><td>TSPS &WwTPs Design / Sizing Criteria

Part5-58</td><td>Reuse Facilities:<table><tr><th>Item/Parameters/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>Minimum UF Plant Recovery</td><td>%</td><td>95</td></tr></table></td><td>The maximum recovery achievable through UF systemsisapproximately93-94%.Anyadditional recovery is possible only through the installation of extra UF backwash recovery systems that treat UF backwash waste and make it available for reuse.
Since surplus flow is available at the inlet of the UF plant, we request that a minimum recovery of 93% be allowed for the UF plants.

Please confirm.</td><td>Refer Addendum-1</td></tr>
</table>

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
117	TSPS &WwTPs Design / Sizing Criteria Part5-58	Reuse Facilities: Item/Parameters/Description: Minimum UF Plant Recovery; Units: -; WwTP at Kogilu: 0.01-0.03 microns to remove suspended solids, bacteria and viruses	Ultrafiltration membranes typically have a porosity range between 0.01 and 0.07 microns, with 0.04 microns being the most commonly adopted nominal size in the industry. Therefore ,we request that a nominal pore size of 0.04 microns for the UF membrane be allowed. Please confirm.	Refer Addendum-1
118	TSPS & WwTPs Design / Sizing Criteria Part5-58 & 8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part8-111	Reuse Facilities: Item/Parameters/Description: Membrane Material (MOC); Units: -; WwTP at Kogilu: Poly-Vinyli-Dene-Fluoride. (PVDF) reinforced with polyester or polypropylene backing layer. & K. PVDF Membrane with Braided: The membrane fiber features a Braided PVDF membrane formulation cast on polyester support braid.	PVDF reinforced with polyester is not necessary for submerged ultrafiltration systems, which operate at lower pressures compared to pressurized UF systems. Therefore, we request permission to provide moreadvanced,100%PVDFmonolithicmembranesfor the submerged ultrafiltration system. These membranes offer the following advantages: •Greater efficiency compared to braided PVDF membranes, as the PVDF layer tends to peel off during operation, reducing functionality. •Longer membrane life span compared to braided PVDF. •Higher reliability. •Reduced chemical consumption compared to braided PVDF. Please confirm.	Refer Addendum-1
119	TSPS &WwTPs Design / Sizing Criteria Part5-58	Reuse Facilities: Item/Parameters/Description: Membrane Type; Units: -; WwTP at Kogilu: Submerged (out-ti-in) or pressurized (outside-in or inside-out) hollow fiber membranes, designed to handle peak plant flow conditions.	The tender specifies that the ultrafiltration system should be designed to handle peak plant flow conditions. However, as per the tender, the required UF feed pumps will pump water to the ultrafiltration system to generate 7.5 MLD of permeate flow. Therefore, we assume that peak plant flow conditions are not applicable for the design of the ultrafiltration system. Please confirm.	Refer Addendum-1
120	TSPS & WwTPs Design / Sizing Criteria Part5-58	Reuse Facilities: Item/Parameters/Description: Maximum Membrane flux rate; Units: -; WwTP at Kogilu: 30 LMH	The maximum membrane flux specified in the tender, i.e., 30 LMH, is typically applicable for MBR systems that operate under high solids load (>5000 mg/L). For UF systems treating secondary treated wastewater, the solids load is usually below 20 mg/L. In such cases, a lower flux rate is unnecessary and could lead to a significant increase in capital costs without offering substantial benefits to the client. Therefore, we kindly request that the average membrane flux rate be allowed to be≤40LMH. Please Confirm..	Tender Conditions Prevails.
121	TSPS &WwTPs Design / Sizing Criteria Part5-59	Reuse Facilities: Item/Parameters/Description: UF Membrane design load factor (on BOD and TSS); Units: -; WwTP at Kogilu: 2	Please confirm that the load factor for UF membrane design refers to the design safety concerning the inlet parameters to the UF system. Additionally, since UF membranes are designed to remove suspended solids, we understand that the design safety or load factor of two shall apply only to the inlet TSS values for the UF system. Please confirm.	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
122	8.18.16Ultra	D. Working Principle of Submerged UF Process: After mechanical pre treatment, the wastewater is fed to the membrane Tanks where the water is separated from the solids by the SUF membranes. The liquid is typically fed below the submerged membrane modules.	We assume that the bidder is allowed to provide rotary drum screens as a mechanicalpre-treatment for the submerged ultrafiltration process. Please confirm.	Tender Conditions Prevails. It is after Disc filtration system only.
123	8.18.16Ultra	I.SingleHeaderDesign The SUF product consists of bundles of hollow fiber membrane spotted only at the lower end of each bundle. The non-pottedends of the fibers (at the top of the bundle)are individually sealed and move freely in the liquid.	The tender specifies that the submerged ultrafiltration system shall have a single header design. However, issues typically associated with double header designs, such as the presence of fibrous material and high MLSS, are not relevant in treated sewage. Double header designs are generally more efficient, providing uniform withdrawal of water from the modules.Therefore, we request approval for the bidder to offer the submerged ultrafiltration header design based on the UF manufacturer's recommendation/design. Please confirm.	Refer Addendum-1
124	8.18.16UltraFiltrationSystem (Submerged/ Pressurized), Part 8-113	<table><tr><td>Technical Particular</td><td>Parameters</td><td></td></tr><tr><td>Spare space for module per train</td><td>-</td><td>10%</td></tr></table>	We understand that for the submerged UF system, the term "train" shall be interpreted as "cell/tank," and a 10% spare space for modules shall be provided per "cell/tank." Please confirm.	Refer Addendum-1
125	8.18.16 UltraFiltration System (Submerged/ Pressurized) Part 8-113	<table><tr><td>Technical Particular</td><td>Parameters</td><td></td></tr><tr><td>Minimum Operating Life of Membrane</td><td>Years</td><td>10</td></tr></table>	The minimum operating life of membranes varies depending on several factors, including the type of system and vendor, and typically ranges from 5 years for pressurized ultrafiltration systems to 7 years for submerged ultrafiltration systems. Therefore, we request you to allow the bidder to propose a minimum operating life of membranes as 7 years. Please confirm.	Tender Conditions Prevails.
126	Qualification of the Tenderer: 3.1.1 General Construction Experience: & 3.1.2 Particular Construction Experience	General & Technical Qualification of Tenderer required in last 05 years.	We kindly request you to consider General & Technical Qualification in Last 07 years. As in all other government and semi government organization last 07 years is allowed for similar type of major projects	Not Acceptable, Tender Conditions Prevails.
127	3.1.2 Particular Construction Experience	(i) Experience in Execution of WwTPs i. The Tenderer as a sole entity or a lead partner and or partner in a joint venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing and Commissioning of all Civil, Mechanical, Electrical and Instrumentation works of minimum One (1) No. WwTP of 12 MLD capacity and above or Two (2) Nos. Waste Water Treatment Plants of minimum 6 MLD capacity with Biological Nutrient Removal (BNR) technology of process like A2O, EA, IFAS, MBBR, SBR with SCADA Integration to meet effluent standard as BOD < 10 mg/L, COD < 50 mg/L, TSS < 10 mg/L, TN < 10 mg/L, TP < 1 mg/L and fecal coliform < 100MPN/100ml should be in operation for a period of one year during the last 5 years as on date of Bid submission	As per the NGT norms the Total Suspended Solid (TSS) value should be TSS < 20 mg/L, hence we kindly request to consider TSS < 20 mg/L instead of TSS < 10 mg/L (In-support of this we are accompanying order copy of the National Green Tribunal Principal Bench, New Delhi date of hearing 30.04.2019).	Refer Addendum-1
128	Vol II, 5.19.1 for Works-A	pH - 6.5-7.5 BOD- 350 mg/l COD-800 mg/l TSS-450 mg/l VSS-360 mg/l TKN-70 mg/l NH4-N- 45 mg/l Total Phosphorous- 7 mg/l	Tender specification specified in Part 5, Design parameter are for Design Purpose only.	Tender Conditions Prevails.
129	Vol II, 1.3 Components List for Works-A,		Is the provision of a Disc Cloth Filter, Ultrafiltration (UF) system, and Odour Control Unit mandatory for every individual STP?	Tender Conditions Prevails. The requirement of a Disc Filter, Ultrafiltration (UF) system, and Odour Control Unit for respective WwTPs shall be as defined in the tender document.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
130	Vol II, 1.3 Components List for Works-A,	EA Process, or IFAS Process, or MBBR Process, or SBR Process, incorporating biological nitrification, de-nitrification, and phosphorus removal. All these process options shall be followed by Disc filters, Chlorine Disinfection and Mechanical Sludge Dewatering. As defined.	UF system is not mentioned here. Pls confirm the scope of UF.	Yes confirmed UF Treatment system is already mentioned in this Tender package. Tender Conditions Prevails.
131	Vol II, 5.14.6 Tanker Filling Station	Contractor shall provide the facilities for tanker filling by installing dedicated "treated water transfer pumps" as specified in Paragraph 5.19.	Is Tanker Filling Station required at every STP?	Tender Conditions Prevails. The requirement shall be as defined in the Tender document.
132		Further the WwTP locations (refer Paragraph 5.19.) where the reuse facilities are not specified, then a dedicated ultrafiltration unit with disinfection facilities shall be installed for the tanker filling station of the WwTP (Capacity shall be same as treated water transfer pumps) to ensure the treated water meets all the time stringent re-use standards and non-detectable fecal coliform levels before being loaded into the tankers. For capacity of treated water transfer pumps refer Paragraph 5.19.	We presume that UF treated water would be used in Filling Stations.	Tender Conditions Prevails. The requirement shall be as defined in the Tender document.
133	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 10 for Works-A		Kindly allow Sub Surface Submersible mixers make Euroteck for Anaerobic &Anoxic tanks for easy Operation & Maintenance. Please Confirm for Individual STP	Not Acceptable, Tender Conditions Prevails.
134	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 12 for Works-A		Kindly allow Sub Surface Submersible mixers make Euroteck for Anaerobic &Anoxic tanks for easy Operation & Maintenance. Please Confirm for Individual STP	Not Acceptable, Tender Conditions Prevails.
135	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 22 for Works-A		Kindly include EKOTON makefor the Fine Bubble (LDPE) Diffusers in the approved make list. Please Confirm for indvidual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
136	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 24 for Works-A		Kindly include Euroteck/EKOTON makefor the Mechanical screens (bar type) in the approved make list. Please confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
137	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 26 for Works-A		Kindly include Euroteck/EKOTON makefor the Mechanical screens (bar type) in the approved make list. Please confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
138	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 40 for Works-A		Kindly include Euroteck/MITA make for the Disc Filters in the approved make list. Please Confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
139	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 5 for Works-A		Kindly include Screw Press/ Belt Filter Press for Dewatering of sludge Euroteck/Ekoton Makewhich consumes less power. Please Confirm for Individual STP	Not Acceptable, Tender Conditions Prevails.
140	General		Kindly include Sub Surface Aerators in Aeration Zone. Aerators are much more energy efficient and Operation & Maintenance is easy compared to Diffused Aeration. Please Confirm. Further we request to add AIRE-O2 make for the Sub Surface Aerators in the approved make under Approved make list Sub Surface Aerator as an additional item.	Tubular type Air Diffuser system is only allowed, other type of Diffuser for Aeration zone is Not Acceptable, Tender Conditions Prevails.
141	General		Kindly include Integrity Municipal Systems (IMS)- I-BOx® Make for Odor control Unit. Please confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
142	General		Request you to include helical hybrid blowers which are energy efficient and high speed blower very well suited in the aeration	Not Acceptable. Tender Conditions Prevails.
143		Biomedia-Virginmedia-Extuded	Agreed	Tender Conditions Prevails.
144		Media shape- Cylindrical with internal fins	Agreed	Tender Conditions Prevails.

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Response to Pre-Bid Queries

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
145		Media Life-(Min) 20 years	Agreed	Tender Conditions Prevails.
146		Solid Loading Rate-Max 45 g/m2	Request to amend for Max 25g/m2	Tender Conditions Prevails.
147		Maximum effective surface Area500m2/m3	Agreed. However request to consider higher surface area like 600-650 also	Tender Conditions Prevails.
148		Tenderer must submit MOU with MBBR technology provider under this contract	Request to abolish the clause for MBBR technology	Tender Conditions Prevails.
149		Total HRT-18Hrs	It should be based on process design.	Tender Conditions Prevails.
150		Technology provider shall provide the evidence that he has successfully supplied the technology for atleast 52MLD-1 nos or 26MLD-2nos with MBBR technology and should be in successful operation for a period of one year as per section 3.1.2(b) (i) Experience in Execution of STPs.	Cooldeck as a leading manufacturer in India and prestigious supplier to major clientlikeTriveni/Ionexchange/Therma x/L&T/RoChem/. We have more than 2000 reference for MBBR media supply to Municipal and other major industry. Presently we do not have reference for the successful operation for a period of one year. Request you to waive off the section 3.1.2 (b) (i) for technology provider to support the Make in India manufacturer.	Not Acceptable. Tender Conditions Prevails.
151	Volume-2 / Section-7, Part 5 -31	**Influent Wastewater Characteristics** pH — 6.5-7.5 BOD — mg/L — 350 COD — mg/L — 800 TSS — mg/L — 450 VSS — mg/L — 360 TKN — mg/L — 70 NH4-N — mg/L — 45 Total Phosphorus — mg/L — 7	As per the clause referenced in the tender document, the BOD value of 350 mg/L corresponds to a COD of 800 mg/L, which indicates a relatively high COD/BOD ratio. Typically, as per CPHEEO guidelines, a BOD of 250 mg/L with a COD of 425 mg/L is considered standard. We assume that the sewage does not contain any industrial effluent and that the COD is primarily biodegradable. Please confirm	The design influent parameters requirement shall be as defined Part 5, Cl.no. 15.20.1, "TSPS & WwTPs Design / Sizing Criteria".
152	Volume-2 / Section-7, Part 5 -31	**Influent Wastewater Characteristics** COD — mg/L — 800	We presume that there is no ingress of industrial effluent in the sewage, and that more than 95% of the COD is biodegradable, with less than 5% being non-biodegradable. Alternatively, the treated effluent COD performance requirements may be considered for relaxation, provided the Contractor can demonstrate that a portion of the influent COD is non-biodegradable and cannot be removed using the existing treatment processes at the Works. Please confirm.	Bidder may consider Non-biodegradable COD as per the bidder design.
153	Volume-1 / Page 11 of 178	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i) 3.1.2. (b) (i) Experience in Execution of WwTPs The Tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One (1) No. WwTP of 12 MLD capacity and above or Two (2) Nos.Waste Water Treatment Plants of minimum 6 MLD capacity with Biological Nutrient Removal (BNR) technology of process like , A2O, EA, IFAS, MBBR, SBR, with SCADA Integration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 10 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and fecal coliform < 100MPN/100ml should be in operation for a period of one year during the last 5 years as on date of Bid submission.	As per the Tender document, the Technology Provider is required to demonstrate that they have successfully supplied the specified technology for at least one Wastewater Treatment Plant (WWTP), as outlined in clause 3.1.2 (b)(i). We understand that this clause refers to the effluent quality at the final discharge point of the Sewage Treatment Plant (STP), rather than immediately following the secondary treatment stage. Accordingly, to demonstrate compliance, the Technology Provider for the secondary treatment system must ensure that the final treated effluent meets the following parameters, as specified— excluding fecal coliform: • BOD ≤ 10 mg/L • COD ≤ 50 mg/L • TSS ≤ 10 mg/L • Total Nitrogen (TN) ≤ 10 mg/L • Total Phosphorus (TP) ≤ 1 mg/L Please confirm.	Refer Addendum-1

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Response to Pre-Bid Queries

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
154	Volume-1 / Page 11 of 178	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i)	As per the Tender document, the Technology Provider must submit evidence of having successfully supplied the technology for at least one (1) wastewater treatment plant (WWTP), in accordance with Clause 3.1.2(b)(i). We observe that the clause does not clearly specify the required capacity of the reference WWTP. However, it is our understanding that the Technology Provider is expected to demonstrate experience in supplying the technology for at least one (1) WWTP of 12 MLD capacity, as per the intent of Clause 3.1.2(b)(i). Please confirm.	Yes, technology provider shall also abide to the PQ required defined in Clause 3.1.2. (b) i
155	Volume-2 / Section-7, Part 5 -51	N-1 condition: - The Bidder shall provide calculations for operating the WwTP at Design Flow with 1 SBR tank offline for maintenance.	In the earlier BWSSB tender—specifically the CP25 package and the 10 MLD STP at Jakkur, which adopted SBR technology—this particular clause was omitted. We presume that a similar approach will be adopted for the current tender as well. Please confirm.	Tender Conditions Prevails.
156	Volume-2 / Section-7, Part 5 -51	HRT at average flow: 24 Hrs.	Hydraulic Retention Time (HRT) is a derived parameter based on the selected SBR cycle time and the inlet sewage characteristics. We understand that the HRT should be determined in accordance with the process requirements and the Technology Provider's recommendations to meet the effluent quality standards specified in the tender. Please confirm.	Tender Conditions Prevails.
157	Volume-2 / Section-7, Part 5 -52	Maximum Decanter Weir loading rate: 120 m3/h/m	In the earlier BWSSB tenders for CP25, CP26, and CP27 packages based on SBR technology, the maximum decanter weir loading rate was specified as 125 $m^3/h/m$ (Addendum-8). We assume that this same rate will be applicable to the current tender as well. Please confirm.	Tender Conditions Prevails.
158	Volume-2 / Section-7, Part 8 -98	Decanters (For SBR system)	We assume that all decanter specifications will be acceptable based on the technology provider's standard specifications, as the bidder is required to submit the technology tie-up agreement in the technical bid. Please confirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.
159	Volume-2 / Section-7, Part 8 -98	Decanters (For SBR system) All the withdrawal SS 316L Pipes shall be of thickness not less than Schedule 20S above 200 mm and Schedule below 200 mm shall be of Schedule 40S, and all the pipes shall be of Seamless type only.	It is presumed that the decanter mechanism forms an integral part of the technology components. Additionally, the bidder is required to submit the Technology Tie-Up Agreement as part of the technical bid. Accordingly, the pipe schedule(s) mentioned under the decanter specifications shall not be applicable to the decanter system. Kindly confirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.
160	Volume-2 / Section-7, Part 5 -53	8. Process Air Blowers α: Oxygen Transfer Correction Factor - 0.6 β: Salinity - Surface Tension Correction Factor - 0.95 F: Fouling Factor - 0.8	The factors provided in the tender document— Alpha, Beta, and the Fouling Factor—are dependent on the type of diffuser, material of construction (MoC), and self-cleaning capacity, which can vary within the range specified in the latest edition of Metcalf and Eddy. Therefore, we assume that these factors can be considered in accordance with the latest edition of Metcalf and Eddy for designing the aeration system. Please confirm.	Tender Conditions Prevails.
161	Volume-2 / Section-7, Part 8 -82 to Part 8-101	8.18 Aeration system with allied Equipments 8.18.1 Tubular Type Diffusers & 8.18.15.2 Diffuser system for IFAS 8.18.15.3 Type of Diffuser System 8.18.15.4 Diffuser Elements 8.18.15.5 Testing for Diffuser system 8.18.15.6 Air Piping to Diffusers	The Tender document specifies two different diffuser specifications as outlined in the referenced clause. We understand that the diffuser specifications provided in Clause 8.18.15.2 to 8.18.15.6 are applicable to the aeration system for all secondary treatment processes where diffused aeration is used. Please confirm.	Diffuser specification shall be as per Cl.no.8.18.1 only and Cl.no. 8.18.15.2 to 8.18.15.6 stands deleted. Refer Addendum-1.

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Response to Pre-Bid Queries

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
162	Volume-2 / Section-7, Part 8 - 90	Si.no. | Description | Material of Construction f | Acoustic enclosure | Al-Zn coated steel, insulated with glass wool	Recently, various materials of construction (MOC) for acoustic enclosures for turbo air blowers have become available. We kindly request permission for the tenderer to provide an acoustic enclosure for the turbo blower based on the manufacturer's standard MOC. Please confirm.	Superior material than specified in the tender can be adopted with justification and without any cost implication to BWSSB.
163	Volume-2 / Section-7, Part 8 - 161	40 Disc Filtration System List of Approved Suppliers: Manufacturer for Disc Filter: M/s Hydro Tech M/s Xylem M/s Estragua M/s Jash Invent M/s Huber M/s Aqua Aerobics M/s Evoqua water Technologies	M/s Yucheon has been accepted as a disc filter supplier in several previous BWSSB tenders, including the STP packages of CP-25, 26, and 27, the 10 MLD STP at Jakkur, the 150 MLD Capacity STP Based on ASP with BNR System at V Valley, the 60 MLD Capacity STP with IFAS Process at Hebbal, the 5 MLD STP at Chikkabanavara, the 40 MLD STP at Rajacanal (Phase II), and the 60 MLD Capacity STP with IFAS Process at Horamavu. Therefore, we assume that the tenderer can propose M/s. Yucheon Fiber Disc Filter for this tender. Please confirm.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
164	Volume-2 / Section-7, Part 5 -56	DISC FILTER Design flow per unit: Designed for 100% Peak Flows including recycle flows - Irrespective process	We understand that the design flow for the disc filter unit should be based on the maximum incoming flow to the unit. In the case of the SBR system, the FDF unit should be designed based on the average flow or the decant flow, whichever is higher. Please confirm.	Tender Conditions Prevails.
165	Volume-2 / Section-7, Part 1 -7 Volume-2 / Section-7, Part 5-32	Parameters | Unit | Value TREATED EFFLUENT QUALITY REQUIREMENTS - DISCHARGE pH - Instantaneous range | - | 6.5-8.0 BOD_5 at 20°C - Maximum monthly average | mg/L | 10 COD - Maximum monthly average | mg/L | 50 TSS - Maximum monthly average | mg/L | 10 TN - Maximum monthly average | mg/L | 10 Total Phosphorus - Maximum monthly average | mg/L | 1 Residual Chlorine – Instantaneous | mg/L | 1 Fecal Coliform – Maximum Monthly average | MPN/100 mL | 100 Fecal Coliform – Ceiling Limit (in any day) | MPN/100 mL | 230	As per the tender document, the treated effluent quality parameters such as BOD, COD, TSS, TN, and TP are expected to be achieved at the outlet of the biological treatment process (e.g., SBR). Therefore, a Disc Filter is not required solely to meet these parameters. Accordingly, we understand that the provision of a Disc Filter shall be based on the process requirement. Kindly confirm.	Tender Conditions Prevails. The requirement shall be as defined in the Tender document.
166	Volume-2 / Section-7, Part 8 -136	Disc Filter	The specifications provided for Disc Filters appear to be specific to a particular vendor and are aligned with the offerings of only one or two vendors listed in the approved vendor list. Accordingly, we understand that the Disc Filter specifications shall be deemed acceptable as per the approved vendor's standard design. Kindly confirm.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
167	Volume-2 / Section-7, Part 8 - 138	Filter Membrane: Stainless steel screen / Mesh: SS-316L	In previous BWSSB tenders, including the 150 MLD Capacity STP Based on ASP with BNR System at V Valley, the 60 MLD Capacity STP with IFAS Process at Hebbal, the 5 MLD Capacity STP at Chikkabanavara, the 40 MLD Capacity STP at Rajacanal (Phase II), and the 60 MLD Capacity STP with IFAS Process at Horamavu, polyester membranes with a 10-micron pore size have been allowed. Hence, we assume that the tenderer can also provide filter membranes made from polyester cloth or SS316 material for this tender. Please confirm.	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
168	Volume-2 / Section-7, Part 8 – 138	….. the automatic valve and suction cleaning pump which shall be	Nowadays, all vendors are supplying fiber disc filters with submersible centrifugal pumps for disc backwash, which do not require automatic valves at the discharge end. This type of arrangement has been accepted and supplied in several BWSSB tenders, such as the 150 MLD Capacity STP Based on ASP with BNR System at V Valley, the 60 MLD Capacity STP with IFAS Process at Hebbal, the 5 MLD Capacity STP at Chikkabanavara, the 40 MLD Capacity STP at Rajacanal (Phase II), and the 60 MLD Capacity STP with IFAS Process at Horamavu, among others. Therefore, we understand that this arrangement should also be acceptable for the current tender.	For automatic Backwash operation this valve is suggested in fully submerged Disc filters, Tenderer can follow alternative arrangement as per vendor recommendation, considering auto operation system of Backwashing based on clogging alarm.
169	Volume-2 / Section-7, Part 8 - 138	Protective Top Cover and Body cover along with frame structure : SS316 (Minimum 4mm for Body cover)	As per the tender document, we are proposing a fully submerged fiber disc filter. This type of filter does not require any covering, shed, or RCC roof. Therefore, we assume that a fully submerged fiber disc filter without a cover will be acceptable. Please confirm.	In cl.no. 8.26, Table "Technical Particulars Common for both Partially Submerged or Fully Submerged type Disc Filtration System", Tenderer can consider the specification, based on his design adopted either of two system. RCC structure as defined in the tender document is mandatory for both the system.
170	Volume-2 / Section-7, Part 5 -31	DISC Filter building	As per the tender document, we are proposing a fully submerged fiber disc filter. This type of filter does not require any covering, shed, or RCC roof. Therefore, we assume that a fully submerged fiber disc filter without a roof will be acceptable. Kindly confirm.	Tender Conditions Prevails.
171	Volume 2, Page no. TECHNICAL SCHEDULE X-2	a) Energy Consumption for TSPS, WwTP with Reuse PCA = [{PCD}*{(0.42*QA/QD)+(0.24*BA/BD)+(0.24*TA/TD)+(0.1*NA/ND)}]	The specified formula for energy consumption is not applicable in the case of the Terminal Sewage Pumping Station (TSPS), as energy usage in this context is based on the volume of sewage pumped rather than on pollutant load parameters such as BOD, TSS, or TKN. Accordingly, we understand that the formula provided for calculating energy consumption for the Intermediate Sewage Pumping Station (ISPS) should also apply to the TSPS. Please confirm.	Tender Conditions Prevails.
172	Volume-2 / Section-7, Part 5 -55	ALUM DOSING SYSTEM (FOR ALL TREATMENT PROCESSES)	As stated in the tender, an alum dosing system is required for chemical phosphorus removal. However, we assume that if the Total Phosphorus $\leq$ 1 mg/L, as specified in the tender, is achieved biologically through the Biological Nutrient Removal process, then the alum dosing system will not be necessary. Therefore, the alum dosing system should be considered optional and provided only if required, based on the process requirements to achieve Total Phosphorus $\leq$ 1 mg/L. Please confirm.	Tender Conditions Prevails.
173	Volume-2 / Section-7, Part 3-13 & 3-14	3.16.4 Bid Drawings and Details (a) General and Process. (b) Mechanical (c) Electrical & Instrumentation	The tender specifies a large number of documents for submission. It is not feasible to submit all these documents at the bidding stage. We understand that the submittals under the categories a) General and Process shall be provided during the bidding stage, while all other documents will be submitted after the award of the contract. Please confirm.	The Tenderer shall submit all the document specified under the clause 3.16.4 Bid Drawings and Details for (a) General and Process, (b) Mechanical, (c) Electrical & Instrumentation. However, the "To-scale dimensional layout and/or installation drawings" as specified under the clause 3.16.4 (b) Mechanical (i) can be omitted during the bidding stage. However, Tenderer shall provide a undertaking for non-submission.
174	Volume-2 / Section-7, Part 5 -40/ 44/49	SECONDARY CLARIFIERS (EA PROCESS) SECONDARY CLARIFIERS (IFAS PROCESS) SECONDARY CLARIFIERS (MBBR PROCESS)	The tender states that the bidder must provide calculations for operating the WWTP at design flows with one tank/unit/module offline for maintenance. We assume that this requirement also applies to secondary clarifiers. Please confirm.	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
175	Volume-2 / Section-7, Part 7 -54	PLC shall be provided as a Hot Stand-by Controller	We understand that a redundant PLC system has been specified to prevent extended interruptions in plant operations and control. Alternatively, the same level of reliability can be ensured by using a standard non-redundant PLC system, supported by pre-programmed spare components such as CPU, power supply, etc. In the unlikely event of a PLC failure, the system can be restored within 1–2 hours using these spares. Please confirm whether a non-redundant PLC with essential pre-programmed spares is acceptable.	The Plant master controller station shall be provided with two identical central processors configured such that they operate in Hot-Standby mode. The system shall be designed and implemented such that when the Main processor fails, the Standby one shall automatically take over. The changeover shall be seamless, smooth and without any time delay and this Hot-Standby feature is to be proposed for WwTP SCADA control room as per Clause No.13.27.d), Part-13, Volume-2 of the Tender Document. Hence, the Tender Conditions Prevails.
176	Volume 2/Section 7, Part 7-54 & 56	7.13.1 Redundant SCADA Dual redundant SCADA system and Historian software Operator work Station, loaded with Runtime SCADA Server SCADA Operator work station with licensed SCADA software SCADA Engineering work station with licensed SCADA software.	The operators available at the STP are generally not trained to carry out programming or modifications in the SCADA system, and allowing them to do so may pose operational risks. SCADA modifications require expert programmers who possess the necessary licenses and skills. Therefore, we kindly request that only runtime software for SCADA be considered. Please confirm.	The PLC cum SCADA softwires capable of modification on Control System Logic updation cum SCADA Screen Graphics during run time without any impact on WwTP Process. The Control Logic & SCADA Graphics screens tested & witnessed during Factory Acceptance Test (FAT) at authorized Original Equipment Manufacturer's (as per approved OEMs list in Part-13) workshop and PLC Logics cum SCADA Graphics Screens in line with approved Plant Operational control philosophy prior to dispatch to site as per Clause No. 14.19.B, Part-14 of tender document. Hence, the critical logic updation are not allowed at site only minor modifications shall be updated through authorized licensed programmer of original equipment manufacturer's for which necessary training provided by authorized licensed programmer to the O&M team as per Clause no.15.1.6, Part-15 in tender document. The SCADA shall be a fully dual redundant microprocessor based computer system such that reliable and fully automatic plant control can be achieved by using Hot-Standby PLC system. The SCADA software functions are to be complied as per clause nos.13.27,13.34 & 13.35, Part-13 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.
177	Volume-2 / Section-7, Part 7 -56	Historian Software	As alarms and trends are already stored within the computer-based SCADA system, which includes an inbuilt SQL server, a separate historian system is not necessary. Therefore, we request you to consider a PLC and SCADA system without the requirement for a separate historian. Please confirm.	In addition with Redundant SCADA system, the Historian software system shall be designed and configured to store data for a minimum of seven years data retrieval as per Clause No.7.13.4, Part-7 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.
178	SECTION 2, INSTRUCTIONS TO TENDERERS (ITT) Page 12 of 178	3.1.2. (b)(ii) Construction Experience- Reuse Plant (with Tertiary Level)	The proposed tertiary treatment technology is the ultrafiltration (UF) process. Given that the UF system is a critical component of the TTP and that the overall system guarantee is closely tied to membrane design and technology, it should be mandatory for the bidder to enter into a tie-up with a qualified membrane supplier. Accordingly, we propose the following qualification requirement: "The bidder must establish a tie-up with the ultrafiltration membrane supplier or its authorized distributor and submit a Technology Tie-up Agreement as part of the technical bid. The membrane supplier or its authorized distributor must have experience in supplying the proposed ultrafiltration system for at least one (1) tertiary treatment plant of minimum 7.5 MLD capacity (net output) in India for any State/Central Government organization or ULB, which has been operational and performing satisfactorily for a minimum of two years as of the tender calling date. A performance certificate from the end user, certified by an officer not below the rank of Executive Engineer, must be submitted." Please confirm.	Tender Conditions Prevails.

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>179</td><td>SECTION 2,
INSTRUCTIONS
TO
TENDERERS
(ITT)
Page 12 of 178</td><td>3.1.2. (b)(ii)
Construction Experience- Reuse Plant (with Tertiary Level)
The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent
<table><tr><th>Parameter</th><th>Unit</th><th>Specified Maximum Concentration</th></tr><tr><td>Turbidity</td><td>NTU</td><td>≤ 2</td></tr><tr><td>TDS</td><td>mg/l</td><td>< 1000</td></tr><tr><td>TN</td><td>mg/l</td><td>≤ 5</td></tr><tr><td>BOD</td><td>mg/l</td><td>≤ 5</td></tr><tr><td>COD</td><td>mg/l</td><td>≤ 30</td></tr><tr><td>TP</td><td>mg/l</td><td>≤ 1</td></tr><tr><td>Fecal Coliform</td><td>mg/l</td><td>NIL</td></tr></table></td><td>The proposed technology for tertiary treatment is ultrafiltration. As per the tender, bidders are required to have experience in reuse plants with a Total Nitrogen (TN) guarantee of < 5 mg/L. However, in reuse plants using treated sewage, a TN guarantee of < 5 mg/L cannot be ensured after the ultrafiltration process. This is because total nitrogen removal in ultrafiltration systems is incidental to the removal of suspended solids. Therefore, we kindly request that the TN guarantee requirement at the outlet of the tertiary treatment plant be adjusted to < 10 mg/L or as arising from the experience criteria.
Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>180</td><td>SECTION 2,
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Page 12 of 178</td><td>3.1.2. (b)(ii)
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Please Confirm..</td><td>Refer Addendum-1</td></tr>
<tr><td>181</td><td>TSPS & WwTPs
Design / Sizing
Criteria
Part 5-32
&
Part 5-58</td><td>TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>TN</td><td>mg/l</td><td>< 5</td></tr></table>&
Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Kogilu</th></tr><tr><td>Membrane Pore Size</td><td>-</td><td>0.01 – 0.03 microns to remove suspended solids, bacteria and viruses</td></tr></table></td><td>As per the tender, the proposed technology for tertiary treatment is the ultrafiltration process. Ultrafiltration membranes are designed to remove suspended solids, bacteria, and viruses, as outlined in referred Part of the tender. Therefore, nitrogen removal in ultrafiltration systems is incidental to the removal of suspended solids and cannot be guaranteed.
In light of this, we kindly request that the Total Nitrogen removal guarantee at the outlet of the tertiary treatment plant after ultrafiltration be set to < 10 mg/L or considered as "As Arising."
Please Confirm..</td><td>Tender Conditions Prevails.</td></tr>
</table>

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Response to Pre-Bid Queries

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
182	TSPS & WwTPs Design / Sizing Criteria Part 5-32 & Part 5-58	**TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)** **Item/Parameter/Description** | **Units** | **WwTP at Kogilu** TDS | mg/l | < 1000 & Reuse Facilities: **Item/Parameter/Description** | **Units** | **WwTP at Kogilu** Membrane Pore Size | - | 0.01 – 0.03 microns **to remove suspended solids, bacteria and viruses**	As per the tender, the proposed technology for tertiary treatment is the ultrafiltration process. Ultrafiltration membranes are designed to remove suspended solids, bacteria, and viruses, as outlined in mentioned clause. Therefore, the incoming TDS will pass unobstructed through the ultrafiltration membrane. A TDS outlet of < 1000 mg/L can only be guaranteed if the incoming TDS to the ultrafiltration unit is less than 1000 mg/L. In light of this, we kindly request that the TDS guarantee be deleted or that the TDS guarantee at the outlet of the tertiary treatment plant be considered as "As Arising." Please Confirm..	Tender Conditions Prevails. TDS at outlet of <1000 mg/L can be guaranteed as long as the influent sewage TDS is < 1000 mg/L.
183	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Kogilu Reuse Flow | MLD | 7.5	We assume that the "Reuse Flow" refers to the flow at the outlet of the Ultrafiltration Plant (Permeate Flow). Please confirm.	Refer Addendum-1
184	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Kogilu No of Membrane Trains | Nos | 4	The term "trains" is typically used for pressurized ultrafiltration systems and does not apply to submerged ultrafiltration systems, where the membrane modules are immersed in tanks or cells. Therefore, we assume that in the specified clause, the term "trains" refers to "cells or tanks" for submerged ultrafiltration systems. Additionally, the number of cells or tanks will be as per the recommendation of the UF vendor. Please confirm.	Tender Conditions Prevails.
185	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: **Item/Parameter/Description** | **Units** | **WwTP at Kogilu** No of Feed Pump/Permeate Pump (Working) | Nos | 3 Capacity of each feed pump / permeate pump | m^3/hr | 130	The tender specifies the number of working feed pumps/permeate pumps as 3nos. However, the actual number of working pumps may vary based on the UF vendor's design and the type of UF system (submerged/pressurized). Therefore, we request that the number and capacity of feed pumps/permeate pumps be allowed to follow the UF vendor's recommendation. Please confirm.	Tender Conditions Prevails.
186	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Kogilu Minimum UF Plant Recovery | % | 95	The maximum recovery achievable through UF systems is approximately 93-94%. Any additional recovery is possible only through the installation of extra UF backwash recovery systems that treat UF backwash waste and make it available for reuse. Since surplus flow is available at the inlet of the UF plant, we request that a minimum recovery of 93% be allowed for the UF plants. Please confirm.	Refer Addendum-1
187	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: **Item/Parameter/Description** | **Units** | **WwTP at Kogilu** Membrane Pore Size | - | 0.01 – 0.03 microns to remove suspended solids, bacteria and viruses	Ultrafiltration membranes typically have a porosity range between 0.01 and 0.07 microns, with 0.04 microns being the most commonly adopted nominal size in the industry. Therefore, we request that a nominal pore size of 0.04 microns for the UF membrane be allowed. Please confirm.	Refer Addendum-1

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
188	TSPS & WwTPs Design / Sizing Criteria Part 5-58 & 8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-111	Reuse Facilities: Item/Parameter/Description: Membrane Material (MOC) | Units: - | WwTP at Kogilu: Poly-Vinyli-Dene-Fluoride (PVDF) reinforced with polyester or polypropylene backing layer. & K. PVDF Membrane with Braided The membrane fiber features a Braided PVDF membrane formulation cast on polyester support braid.	PVDF reinforced with polyester is not necessary for submerged ultrafiltration systems, which operate at lower pressures compared to pressurized UF systems. Therefore, we request permission to provide more advanced, 100% PVDF monolithic membranes for the submerged ultrafiltration system. These membranes offer the following advantages: □ Greater efficiency compared to braided PVDF membranes, as the PVDF layer tends to peel off during operation, reducing functionality. □ Longer membrane lifespan compared to braided PVDF. □ Higher reliability. □ Reduced chemical consumption compared to braided PVDF. Please confirm.	Refer Addendum-1
189	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description: Membrane Type | Units: - | WwTP at Kogilu: Submerged (out-to-in) or Pressurized (outside-in or inside-out) hollow fiber membranes, designed to handle peak plant flow conditions.	The tender specifies that the ultrafiltration system should be designed to handle peak plant flow conditions. However, as per the tender, the required UF feed pumps will pump water to the ultrafiltration system to generate 7.5 MLD of permeate flow. Therefore, we assume that peak plant flow conditions are not applicable for the design of the ultrafiltration system. Please confirm.	Refer Addendum-1
190	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description: Maximum Membrane Flux rate | Units: - | WwTP at Kogilu: 30 LMH	The maximum membrane flux specified in the tender, i.e., 30 LMH, is typically applicable for MBR systems that operate under high solids load (>5000 mg/L). For UF systems treating secondary treated wastewater, the solids load is usually below 20 mg/L. In such cases, a lower flux rate is unnecessary and could lead to a significant increase in capital costs without offering substantial benefits to the client. Therefore, we kindly request that the average membrane flux rate be allowed to be ≤ 40 LMH. Please Confirm..	Tender Conditions Prevails.
191	TSPS & WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description: UF Membrane design load factor (on BOD and TSS) | Units: - | WwTP at Kogilu: 2	Please confirm that the load factor for UF membrane design refers to the design safety concerning the inlet parameters to the UF system. Additionally, since UF membranes are designed to remove suspended solids, we understand that the design safety or load factor of two shall apply only to the inlet TSS values for the UF system. Please confirm.	Tender Conditions Prevails.
192	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-107	D. Working Principle of Submerged UF Process: After mechanical pretreatment, the wastewater is fed to the membrane tanks where the water is separated from the solids by the SUF membranes. The liquid is typically fed below the submerged membrane modules.	We assume that the bidder is allowed to provide rotary drum screens as a mechanical pre-treatment for the submerged ultrafiltration process. Please confirm.	Tender Conditions Prevails. It is after Disc filtration system only.
193	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-110	I. Single Header Design • The SUF product consists of bundles of hollow fiber membranes potted only at the lower end of each bundle. The non-potted ends of the fibers (at the top of the bundle) are individually sealed and move freely in the liquid.	The tender specifies that the submerged ultrafiltration system shall have a single header design. However, issues typically associated with double header designs, such as the presence of fibrous material and high MLSS, are not relevant in treated sewage. Double header designs are generally more efficient, providing uniform withdrawal of water from the modules. Therefore, we request approval for the bidder to offer the submerged ultrafiltration header design based on the UF manufacturer's recommendation/design. Please confirm.	Refer Addendum-1

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>194</td><td>8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-113</td><td><table><tr><th>Technical Particular</th><th colspan="2">Parameters</th></tr><tr><td>Spare Space for module per train</td><td></td><td>10 %</td></tr></table></td><td>We understand that for the submerged UF system, the term “train” shall be interpreted as “cell/tank,” and a 10% spare space for modules shall be provided per “cell/tank.”
Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>195</td><td>8.18.16 Ultra Filtration System (Submerged/ Pressurized)</td><td><table><tr><th>Technical Particular</th><th colspan="2">Parameters</th></tr><tr><td>Minimum Operating Life of Membrane</td><td>Years</td><td>10</td></tr></table></td><td>The minimum operating life of membranes varies depending on several factors, including the type of system and vendor, and typically ranges from 5 years for pressurized ultrafiltration systems to 7 years for submerged ultrafiltration systems. Therefore, we request you to allow the bidder to propose a minimum operating life of membranes as 7 years.
Please confirm.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>196</td><td>Vol. I, Pg. 12 of 178</td><td>Construction Experience- Reuse Plant (with Tertiary Level)
……. The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent
<table><tr><th>Parameter</th><th>Unit</th><th>Specified Maximum Concentration</th></tr><tr><td>Turbidity</td><td>NTU</td><td>< 2.0</td></tr><tr><td>TDS</td><td>mg/L</td><td>< 1000</td></tr><tr><td>TN</td><td>mg/L</td><td>< 5.0</td></tr><tr><td>BOD</td><td>mg/L</td><td>< 5.0</td></tr><tr><td>COD</td><td>mg/L</td><td>< 30.0</td></tr><tr><td>TP</td><td>mg/L</td><td>< 1.0</td></tr><tr><td>Fecal Coliform</td><td>MPN/100 ml</td><td>Nil</td></tr></table></td><td>It is to highlight that Tertiary Treatment of the Wastewater / Sewage effluent has not been designed to treat the TDS and hence, the same will not be checked for WWTP/STP. Hence, please delete the requirement of the TDS from the list of parameters.

Further, the Total Nitrogen (TN) of the treated effluent will never be reduced up to 5 mg/L and we presume that the same is a typographical mistake. The corrected value must be Total Nitrogen (TN) < 10 mg/L and NH4N < 5 mg/L.

Furthermore, if the treated effluent has the BOD and COD contents, then the Fecal Coliform will never be Nil. Hence, need to revise.

In view of the above, it is requested to modify the said table as follows:</td><td>Refer Addendum-1</td></tr>
<tr><td>197</td><td>Vol. I, Pg. 15 of 178</td><td>Equipment Capabilities
Availability by owning at least 50% of the required specified Key and Critical equipment for the above work. The remaining 50% can be deployed on lease/hire basis for all works provided the relevant documents (Commitment, Agreement etc..) for the availability of the work are furnished.</td><td>To have better competition, it is requested to allow the bidder to have a hiring agreement for 100% of the equipment listed in the table. Please confirm.</td><td>Not Acceptable, Tender Conditions Prevails.</td></tr>
<tr><td>198</td><td>Vol. II
Sectiton 7</td><td>In table of 1.7 TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE – Mentioned that Oil & Grease should be nil</td><td>Please Confirm Oil & Grease at the inlet.</td><td>Tender Conditions Prevails.</td></tr>
<tr><td>199</td><td>Vol. II
Sectiton 7</td><td>Pumping main to WwTP
Works downstream of Line XX shall be included in Works – A, whereas Works upstream of Line XX shall be included in Works – B. For clarity Works in Works – A therefore includes a short length of sewer, which is outside the boundary of the Site for Works – A, as described in the above paragraph.</td><td>It is understood that the scope of work A terminates 2 meters from the boundary line, from which point the scope of work B commences. Please Confirm.</td><td>The requirement shall be as defined in the tender document.</td></tr>
<tr><td>200</td><td>Vol. II
Sectiton 7</td><td>While selecting any type of pump and blower, priority shall be given to higher pump/blower efficiency and lower power consumption and shall ensure that pump/blower can operate at high efficiency throughout its service life. At minimum contractor shall ensure efficiencies of pump/blower as listed below:
•Minimum efficiency of Submersible Pumps for ISPS and TSPS shall be 70%
•Minimum efficiency of Axial Tubular Pump (MLR) shall be 70%
•Minimum efficiency of Rotary Tri-Lobe blower shall be 70%.....
•Minimum efficiency of Centrifugal Turbo blower shall be 90%</td><td>Please note that in Pumps & Blowers, efficiency is governed by the duty points themselves. Hence, it is requested to accept the pump & blower efficiency as proposed by the manufacturer in line with the desired duty points.</td><td>Refer Addendum-1</td></tr>
<tr><td>201</td><td>Vol. II
Sectiton 7</td><td>Tanker Filling Station
For direct filling of these tankers, rising main of the treated water transfer pumps shall be terminated outside the boundary at suitable height and location as directed by Engineer.</td><td>Please confirm location & point of termination.</td><td>Tender Conditions Prevails.</td></tr>
</table>

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
202	Vol. II Sectiton 7	Design of WWTP (Primary, secondary & reuse system)	We understand that the selection of the treatment process (MBBR, EASP, SBR), along with the sizing of process tanks and volume, design parameters (F/M, SRT, MLSS) shall be in accordance with the bidder's design philosophy in compliance with the CPHEEO Manual. Please Confirm.	Tender Conditions Prevails.
203	Vol. II Sectiton 7	Minimum UF (Reuse Facility) Recovery : 95%	Recovery will depend on membrane selection. Please confirm	Refer Addendum-1
204	Vol. II Sectiton 7	Minimum poly dosing rate = 5 kg/T	Minimum Poly dosage rate shall be 1.5-2.0 kg/T as per the CPHEEO manual. Kindly confirm	Tender Conditions Prevails.
205	Vol. II Sectiton 7	APPROVED VENDOR LIST –FOR MECHANICAL EQUIPMENT Vendor List: - Inclusion of Make	The bidder has to operate & maintain the facilities for 10 years; it is requested to let the bidder select the make of equipment, considering its continuous performance for a longer period. This will help in selecting and providing reliable equipment that requires less maintenance during the O&M period.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
206		Buildings constructed under contract	As the O&M period is 10 years, the buildings such as administrative buildings, workshop, etc. constructed under contract will be allowed for use of the contractor during the O&M period without any extra cost. Please confirm.	Tender Conditions Prevails.
207		Site office / Contractors' office provided during execution of contract	As the O&M period is 10 years, we request the site office, contractor's office, staff quarters, temporary sheds, etc. provided during construction will be used by the bidder during the O&M period without demolishing the same. Please confirm.	Tender Conditions Prevails.
208		Date of Submission	Looking to the volume of work involved in tender preparation, we request to extend the date of submission at least by 3-4 weeks after receipt of the reply to Prebid queries.	Tender Conditions Prevails.
209	11 of 178 Vol – I	Particular Construction Experience (a)(1) Contracts of Similar Size and Nature: The Tenderer as sole entity or lead partner and or partner in a joint venture shall provide evidence that it has successfully completed design and construction of at least One (1) No.WwTP contract of value not less than INR 30.05 Crores in last Five (5) financial years.	We understand Wastewater Treatment Plant (WWTP) and Sewage Treatment Plant (STP) both are similar, Bidder who is under possession of STP experience shall also be considered a qualified. Also allow the said experience in last Ten (10) Financial years to encourage wider participation and foster a more competitive bidding process Please confirm.	For experience purpose this certificates for both Wastewater Treatment Plant (WwTP) and Sewage Treatment Plant (STP) shall be considered. Not acceptable. Tender Conditions Prevails.
210	11 of 178 Vol – I	(b)Experience in Key Activities: During the last 5 years as on date of Bid submission.	Kindly allow the said experience in last Ten (10) Financial years to encourage wider participation and foster a more competitive bidding process Please confirm.	Not Acceptable. Tender Conditions Prevails.
211	11 of 178 Vol – I	Tenderer must submit the MOU with Technology provider for proposed process technology (SBR/IFAS/MBBR) under this contract, failing which the Tender will be considered as technically non-responsive	We understand Bidder who have sufficient experience of Design, supply, installation and commissioning of Sewage treatment Plant on offered technology and has successfully installed same capacity and plant is under operation & Maintenance. In that case Bidder doesn't require to make MOU for the offered technology. Please confirm.	If any bidder proposes to use their own in-house SBR/IFAS/MBBR technology, they must clearly demonstrate that the technology is bidders proprietary and has been successfully implemented as defined in Tender Clause No. 3.1.2 (b)(i). The bidder shall also confirm that the SBR Decanter including SCADA system / IFAS media system / MBBR media system, has been entirely designed and manufactured by bidder and has not been sourced from any third-party technology provider. Supporting documents including performance certificates, client references, and detailed documentation shall be submitted along with the bid. In such case, MoU with a third-party technology provider is not required. Refer Addendum-1

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
212	12 of 178 Vol – I	(ii) Construction Experience- Reuse Plant (with Tertiary Level) Desing, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of 1 no. 6 MLD & 2 nos. 3 MLD reuse plant (withv Tertiary Treatment) with one year O&M in last 5 Years.	We understand the said requirement significantly limits the competition and may restrict participation of otherwise technically qualified and experienced agencies. We kindly request the deletion of this clause or its relaxation to encourage wider participation and foster a more competitive bidding process. We are confident that agencies with substantial relevant experience in similar infrastructure and treatment facilities can ensure project success even if their past projects do not exactly match the stated capacity and configuration. Please confirm.	Not Acceptable, Tender Conditions Prevails.
213	14 of 178 Vol – I	(d) The tenderer who have applied for corporate debt restructuring (CDR)/ strategic debt restructuring (SDR)/ facing recovery proceeding from Financial Institution/ facing winding up proceedings / those under BIFR in the last 5 Financial Years (i.e.,2019-20 to 2023-24). In this regard, the Tenderer shall submit along with tender, an affidavit along with certificate of statutory Auditor that the Tenderer is not under CDR/SDR/ not facing recovery proceeding from Financial Institutions / not facing winding up proceedings / not under BIFR need to be submitted by the tenderer.	We would like to bring to your kind notice that CDR/SDR provision are no more relevant as the same repealed vide RBI notification no. RBI/2017-18/131, DBR.No.BP.BC.101/21.04.048/2017-18 dated 12th Feb 2028. Notification is attached herewith. We understand bidder can submit the affidavit for the same with RBI notice. Please confirm.	Tender Conditions Prevails.
214	15 of 178 Vol – I	3.1.5 Equipment Capabilities Sl.No. / Equipment Type and Characteristics / Minimum Number Required (Nos.) 1 / Crane or Hydra (10 Ton) / 4 2 / Loader cum back hoe (0.7 Cum) / 4 3 / Excavators (1.0 Cum) / 4 4 / Tipper/Dumper Trucks (10 Cum) / 4 5 / Compressor / 1 Availability by owning at least 50% of the required specified Key and Critical equipment for the above work. The remaining 50% can be deployed on lease/hire basis for all works	We request kindly consider a relaxation in the requirement to provide RC book copies for leased/hired vehicles at the time of bid submission. Suggestion/ Request for Amendment: It is requested that the submission of RC book copies for leased/hired vehicles be allowed at the time of award or prior to mobilization, instead of at the bid stage. Alternatively, a declaration from the vehicle owner should be deemed sufficient during the bidding process.	Declaration from the vehicle owner for the leased / hired vehicles will be considered for bidding process only. However, the tenderer has to submit all the copies pertaining to leased/ hired vehicle before award of contract. Tender Conditions Prevails.
215	36 of 178 Vol – I	1.3 Particular Construction Experience Record (ref. ITT Sub-clause 3.1.2) (a) Contracts of Similar Size and Nature (ref. ITT Sub-clause 3.1.2.a) Note: Experience Certificate should be signed by Authority (in position of not below the rank of Executive Engineer)	We would like to bring your kind notice that, every employer / department has their own format for certifying the completion certificate. We understand given filled format is acceptable and supported by employer's certified certificate. Please confirm.	Tender Conditions Prevails.
216	50 of 178 Vol – I	Form 9B: Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration	We understand not applicable points can be strikeout which are not applicable. Please confirm.	Tender Conditions Prevails.
217	79 of 178 Vol – I	37. Payments 37.1 Payments shall be adjusted for deductions for advance payments, other recoveries in terms of the contract and taxes, at source, as applicable under the law. The Employer shall pay the Contractor the within 60 days of submission of bill.	We understand if Employer is unable to pay the monthly bill payment within 60 day of certification. In that case Contractor shall have to right to claim interest @10% p.a. on such delayed payment without prejudice to any other right of Contractor under the Contract including but not limited to the right to suspension/ termination". Please confirm.	Tender Conditions Prevails.
218		Limitation of Liability	Since it is not provided in Tender doc we understand that notwithstanding any other provision of the Contract the Bidder's maximum liability accrue or arise from the performance of the Contract against Employer or any other third party shall be limited upto maximum 100% of Contract Price	Tender Conditions Prevails.

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>219</td><td></td><td></td><td>Request to add Helical Hybrid Blowers in addition to Turbo Blowers & conventional Tri /Twin Lobe Blowers for all ongoing 9 projects of BWSSB KWSDRP WBS I to WBS V</td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
<tr><td>220</td><td></td><td></td><td>Inclusion of Advnced Air Blower Technology
We request that Positive Displacement Rotary Helical Hybrid Air Blowers be considered in addition to the currently listed blower types (Twin Lobe/Tri Lobe/Turbo). This technology is highly efficient, sustainable, and particularlu suited to Indian operating environments. It is a proven, 100% make-in-India solution, designed to hadle variable flow and pressure conditions effieciently.</td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
<tr><td>221</td><td></td><td></td><td>Inclusion of free floating IFAS carriers with PU Foam and activated carbon.
We propose the use of PU foam-based IFAS carriers impregnated with activated carbon for STP upgrdation. Below are technical specifications:
<table>
<tr><th>Items</th><th>Unit</th><th>Values</th></tr>
<tr><td>MOC</td><td></td><td>Poly Urethane Fom impregnated with activated carbon.</td></tr>
<tr><td>Medai Surface Area</td><td>M3/m²</td><td>More than 20000 m² /m³ (BET measurement)</td></tr>
<tr><td>Media filling ratio</td><td>%</td><td>12-15% of the total volume of IFAS reactor</td></tr>
<tr><td>Shape</td><td></td><td>Cuboid</td></tr>
<tr><td>Size</td><td></td><td>20x20x7mm</td></tr>
<tr><td>Media life</td><td></td><td>Minimum 10years</td></tr>
</table></td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
<tr><td>222</td><td>Volume1

2.2 Joint Ventures (JV)</td><td>Partner Limitation: The number of partners in a JV is Lead+ One (1) (Partner); however, the attention of Tenderers is drawn to theprovisions of Sub-Clause2.2.5.</td><td>1.Astand-alonefirm,company,legalentityformedasperthe applicable law; or
2.In case of a joint venture (maximum of 3 partners), all partner shall collectively meet the required technical and financial qualifications as mentioned.</td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
<tr><td>223</td><td>Volume 1</td><td>(a) (i) Thetenderer as soleentity or lead partnerandor partner in a joint venture shall</td><td>(a) (i) The tenderer as soleentity or lead partner and or partner in a joint venture</td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
<tr><td>224</td><td>Volume 1

(b)Experience in Key Activities:

(i) Experience in Execution of STPs</td><td>The tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, andInstrumentation Works of minimum One (1) No. WwTP of 34MLD capacity and above or Two(2) Nos. of Wastewater Treatment Plants of minimum 17 MLD capacity with Biological Nutrient Removal (BNR) technology of process like, A2O, EA, IFAS, MBBR, SBR,with SCADA Integration, to meet effluent standardas
BOD ≤ 10 mg/L,
COD≤50mg/L,
TSS≤10mg/L,
TN≤10mg/L,
TP≤1 mg/L and
fecal coliform<100MPN/100ml
and should be in operation for a period of one year during the last 5 years as on date of Bid submission.</td><td>The Bidder as a sole entity or a Lead Partner and or Partner in a Joint Venture or as a nominated sub-contractor shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One(1) No. WwTP of 26 MLD capacity and above or Two (2) Nos. Waste water Treatment Plants of minimum 17 MLD capacity with Biological Nutrient Removal (BNR) technology of process like , A2O, EA, IFAS, MBBR, SBR, with SCADA Integration, to meet effluent standard as
BOD≤ 10 mg/L,
COD ≤ 50 mg/L,
TSS ≤ 10 mg/L,
TN ≤ 10 mg/L,
TP ≤ 2 mg/L and
fecal coliform < 100MPN/100ml should be in operation for a period of one year during the last 7 years as on date of Bid submission.</td><td>Refer Addendum-1</td></tr>
</table>

Team Leader
PMC : TCE - NJSEI (JV) Consultants
KWSDRP - BWSSB

CE (Project)
BWSSB

Response to Pre-Bid Queries

NAME OF PROJECT : DESIGN, ENGINEERING, CONSTRUCTION AND COMMISSIONING OF WASTEWATER TREATMENT PLANTS WITH TERTIARY TREATMENT FACILITY AND INTERMEDIATE SEWAGE PUMPING STATION ALONG WITH OPERATION & MAINTENANCE THEREOF FOR TEN YEARS FOR BYATARAYANAPURA ZONE (DBO MODE) IN 110 VILLAGE AREAS (Phase II) UNDER KARNATAKA WATER SECURITY AND DISASTER RESILIENCE PROGRAM (KWSDRP) – (Contract Package No. BWSSB CE-P/KWSDRP/WBS-II-A)

<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>225</td><td>Volume1

(b)ExperienceinKey Activities:

(ii) Construction Experience-ReusePlant (with Tertiary Level)</td><td>The tenderer as soleentity or lead partner and or partner in a joint venture shall provide evidence that it has successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, andCommissioning ofall Civil,Mechanical,Electrical,andInstrumentationWorksof minimumOne(1)No.and above reuse plant of 12MLD or Two (2) Nos.of reuse plant (with Tertiary Treatment) of minimum 6 MLD capacity and should be in operation for a period of one year during the last 5 years as on date of Bid submission. The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent

Parameter Unit Specified Maximum Concentration
Turbidity NTU < 2.0
TDS mg/L < 1000
TN mg/L < 5.0

BOD mg/L < 5.0
COD mg/L < 30.0
TP mg/L < 1.0
Fecal Coliform MPN/100 ml Nil</td><td>The Bidder as a sole entity or a Lead Partner and or Partner in a Joint Venture or as a nominated sub-contractor shall provide evidence that it has successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One(1) No. and above reuse plant of 12 MLD or Two (2) Nos. reuse plant (with Tertiary Treatment) of minimum 6 MLD capacity and should be in operation for a period of one year during the last 7years as on date of Bid submission.The Reuse Plant (with Tertiary Treatment) during operation should be meeting following criteria for the treated effluent.

<table><tr><th>Parameter</th><th>Unit</th><th>PlantPerformance</th></tr><tr><td>TSS</td><td></td><td><5</td></tr><tr><td>TN</td><td></td><td><10</td></tr><tr><td>BOD</td><td></td><td><5</td></tr><tr><td>COD</td><td></td><td><30</td></tr><tr><td>TP</td><td>Mg/L</td><td><2</td></tr><tr><td>FecalColiform</td><td></td><td>100MPN/100ml</td></tr></table></td><td>Tender Conditions Prevails.
Refer Addendum-1</td></tr>
<tr><td>226</td><td>Volume 1

(b)ExperienceinKey Activities:
(iii) Experiencein Terminal/Intermediate Sewage Pumping Station</td><td>The tenderer as a sole entity or a Lead Partner or a Partner in a Joint Venture shall have successfully completed contracts(s) which includes Design, Procurement, Supply, Installation, Construction, Testing and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of MinimumOne (1) No. Terminal/Intermediate Sewage Pumping Station of 8 ML D in last Five (5)Years as on date of bid submission</td><td>The Bidder as a sole entity or a Lead Partner and or Partner in a Joint Venture or as a nominated sub-contractor shall have successfully completed contracts(s) which includes Design, Procurement, Supply, Installation, Construction, Testing and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of Minimum One (1) No. Terminal/Intermediate Sewage Pumping Station of 8 MLD in last Seven(7) Years as on date of bid submission.</td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
<tr><td>227</td><td>Volume1

(b) Experience in Key Activities:
(iv) Construction Experience-Pipeline</td><td>The tenderer must have experience in the role of Prime Contractor (Single entity or JV member)/Management Contractor for procurement and construction of pipeline (DWC/RCC/DI) with a minimum diameter of 200 mm C above in any one year during the last 5 years as on date of bid submission involving minimum length of 12Km.</td><td>The bidder must have experience in the role of Prime Contractor (Single entity or JV member)/ Management Contractor for procurement and construction of pipeline (DWC/RCC/DI)with a minimum diameter of 200mm C above in any One year during the last 7 years as on date of bid submission involving minimum length of 12Km.</td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
<tr><td>228</td><td>Volume 1

(b) Experience in Key Activities:
(v) Construction Experience Trenchless Works</td><td>The tenderer must have experience in the role of Prime Contractor (Single entity or JV member)/Management Contractor for executing trenchless work 600mm dia and above MS casing pipe of minimum100 meters in any one year during the last 5 years as on date of bid submission.</td><td>The bidder must have experience in the role of Prime Contractor (Single entity or JV member)/ Management Contractor for executing trenchless work 600mm dia and above MS casing pipe of minimum 100 meters in one year during the last 7 years as on date of bid submission</td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
<tr><td>229</td><td></td><td></td><td>The Bidder should have minimum 2 year of OCM experience of minimum 26 MLD STP (meeting the required performance standards of
BOD<10mg/l;
TSS<10mg/l,
FC<100MPN/100 ml,
TP<2mg/l and
TN<10mg/l) with SCADA and OCEMS over
the last 7 years preceding the month of publication of NIT</td><td>Tender Conditions Prevails.</td></tr>
</table>

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
230	Volume 1 3.1.3 Financial Capabilities (c)	The audited balance sheets or other financial statements acceptable to the Employer, for the last five years shall be submitted and must demonstrate the current soundness of the Tenderers financial position and indicate its prospective long-term profitability. If deemed necessary, the Employer shall have the authority to make inquiries with the Tenderers bankers. As a minimum, a Tenderers networth calculate das the difference between total assets and total liabilities should be positive.	The audited balance sheets or other financial statements acceptable to the Employer, for the last five years shall be submitted and must demonstrate the current soundness of the Tenderers financial position and indicate its prospective long term profitability.If deemed necessary, the Employer shall have the authority to make inquiries with the bidders bankers.As a minimum,a Tenderers networth calculated as the difference between total assets and total liabilities should be equal to 100 crores.	Not Acceptable. Tender Conditions Prevails.

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